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**"Empirical compliance: A study of waste management
regulation in the U.K. and Germany"**

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University

This research was conducted while I was registered as a
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ABSTRACT

This thesis deals with the concept of compliance. Its main argument is that the concept of formal compliance has shortcomings and therefore needs to be complemented with a concept of empirical compliance. At the heart of the concept of compliance is the relationship between rules and social practices. This relationship is conceptualized as involving a "gap", in the case of formal non-compliance, or as indicating the fulfilment of legal requirements in the case of formal compliance. Instead, as the concept of empirical compliance shows, rules and social practices can be linked through a process of integration. This changes our understanding of a concept of law. Formal concepts of law which are based on formal legal rules have to be modified in order to understand empirical compliance. An empirical concept of law which is based both on enforcement officers' and the regulated companies' definitions of what is considered as normative in everyday practices has to be adopted. I discuss commercial aims, technology, information and the formal law as normative contexts which shape a notion of empirical law. The thesis adopts a social construction approach by exploring how actors in the field establish and manipulate the various normative constraints under which they work.

The research explores empirical compliance in the area of waste management regulation in the U.K. and Germany. It draws on qualitative data on the implementation of waste management regulation in the everyday practices of handling waste at two waste treatment plants and the day to day enforcement activities of two waste regulation authorities. The thesis focusses on the behaviour of staff on the lowest level of the organizational hierarchy in both the waste treatment plants and the waste regulation authorities. The main research techniques employed were observation and participant observation over a three months period with each of the four organizations involved in the research.

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CHAPTER 1: INTRODUCTION

1.1. The topic and themes of the thesis

This thesis deals with legal compliance. In particular it explores the question how compliance is achieved in practice. The concept of compliance at first sight does not seem to merit further inquiry. We can think of compliance as 'fulfilling legal requirements'. To think of compliance as 'fulfilling legal requirements', however, refers to an abstract level of understanding compliance. What counts in practice as fulfilling legal requirements? What do the regulated do in the context of 'compliance' situations and how might this influence what we can understand as a concept of compliance?

These questions have not received much attention in the literature. If issues surrounding compliance have been discussed then often non-compliance was the object of inquiry. Non-compliance has been considered as interesting and relevant in the literature, for example, from a perspective of social control. How can we make law more effective and achieve greater social control? In this thesis the focus is neither on a pre-given concept of compliance, nor non-compliance, but I will explore the social processes that operate in the context of the achievement of both compliance and non-compliance.

The particular approach of this research to understanding compliance is to look at how compliance is

or is not achieved in the field rather than to deal with compliance abstractly. To understand compliance in practice requires an exploration of the relationships between the regulated, the regulators and legal requirements. In the literature, particularly on non-compliance, the relationship between the social practices of the regulated and legal requirements has often been perceived as one where there are 'gaps'. One of the issues I will explore in this thesis is whether the relationship between the social practices of the regulated and legal requirements cannot be understood in a less static way. Can there be an integration of the regulated companies' social practices with the legal requirements demanded of them?

1.2. The legal framework of waste management regulation in the U.K. and Germany

This thesis discusses compliance with some aspects of waste management regulation. In this section I want to describe the main features of the regulatory framework because in the subsequent chapters, reference will be made to these legal provisions and the role they play in practice.

1.2.1. U.K.

Waste management regulation

While I conducted my field work in the U.K., the main statute applying to waste management regulation was the Control of Pollution Act (COPA) 1974. Some of the provisions under the Environmental Protection Act (EPA) 1990 had come into force towards the end of my field work, for example, the duty of care provisions under section 34 EPA 1990. But the new system of licensing under section 35 EPA 1990 was not in force.

The need for licences for the disposal of controlled waste

Under COPA 1974, the unlicensed disposal of 'controlled' waste - household, industrial and commercial waste (section 30 (1)) - is prohibited (section 3(1) COPA 1974). Most of the wastes which were handled at the U.K. waste treatment plant where I did field work were industrial wastes.

The procedure for obtaining a waste disposal licence

Section 5 COPA 1974 spells out the procedure for applying for a waste disposal licence. A disposal licence can only be issued for land for which planning permission for waste disposal has been granted by the planning authority (section 5 (2)). Where a valid planning permission is in force, the waste disposal authority (WDA) should grant the application for a waste disposal

licence. The application should only be rejected if this is necessary for the purpose of preventing the pollution of water or danger to public health (section 5 (3)).

Licence conditions and modifications

Under section 6 (2) COPA 1974, the WDA has powers to impose conditions on the licence. WDAs can serve notices on operators that modify licence conditions which, in the opinion of the authority, are desirable and unlikely to require unreasonable expenditure by the licence holder (section 7 (1) (a) (i) COPA 1974). Also the licence holder can request the modification of licence conditions (section 7 (1) (a) (ii) COPA 1974).

Guidance through Waste Management Papers (WMPs)

The Department of the Environment (DoE) issues guidance in the form of WMPs which put flesh on the bones of the statutory provisions. For example, WMP no.4 (1990, "The Licensing of Waste Facilities", London, HMSO) addresses the procedure for licensing facilities. It spells out that working plans, which are detailed descriptions of how the operator intends to run his/her site, should be submitted with the application for a waste disposal licence (para. 2.3.- 2.9). WMP no.4 also provides model site licence conditions and makes recommendations for the site inspection frequency for waste control officers.

The WMP no.4 was drawn up by Her Majesty's Inspectorate for Pollution Control (HMIP), as part of the DoE. HMIP was assisted by a group, composed of senior waste control officers from WDAs, staff from waste management companies and representatives of professional associations such as the Chemical Industries Association and professional bodies such as the Institute of Waste Management (representing waste control officers) and the National Association of Waste Disposal Contractors (representing waste management operators). There are further WMPs which provide more technical guidance for example on the engineering of landfill sites or the control of landfill gas.

Enforcement powers and offences

Power to serve notices: In the event of non-compliance with site licence conditions the WDA can issue a notice on the licence holder requesting him to comply with them (section 9 (4)).

Licence revocation: WDAs have a duty to revoke a licence where it appears to them that the continuation of activities to which the licence relates would cause the pollution of water or danger to public health or would be seriously detrimental to the amenities of the locality affected by the activities. Such a duty to revoke the licence only exists where the pollution, danger or detriment cannot be avoided by modifying the licence conditions (Section 7 (4)).

Supervision of sites: WDAs have to supervise waste disposal sites to ensure that the activities to which the licence relates do not cause pollution of water or danger to public health or become seriously detrimental to the amenities of the locality (section 9 (1) (a)). Also supervision should ensure that operators comply with licence conditions (section 9 (1) (b)).

Offences: The unlicensed disposal of controlled waste or the disposal of waste in breach of licence conditions constitutes a criminal offence (section 3 (2) COPA 1974).

Appeals: In case of a rejection, modification or revocation of a disposal licence or disagreement with the licence conditions, the licence applicant or holder can appeal against the decision of the WDA to the Secretary of State (section 10 (1) COPA 1974).

Regulations

Section 17 of COPA 1974 gives powers to the Secretary of State to make provisions for controlled waste which is difficult or dangerous to dispose of. These wastes are called special wastes and are more precisely defined in the regulations made under section 17 COPA 1974 (para. 2(1) of the Control of Pollution (Special Waste) Regulations 1980, SI 1980 No. 1709).

One criterion for special waste is that it contains or consists of substances listed in a schedule and is

"dangerous to life". The section 17 procedure is a paper procedure which controls the movement of special wastes from waste producers to a final disposal site. Under para. 4 of the regulations, the producer of special waste is under a duty to prepare 6 copies of a consignment note before the waste is removed from the premises. One copy of this consignment note has to be sent by the producer to the WDA in whose area the waste is to be disposed. The copy of the consignment note must be furnished to the WDA not more than one month and not less than three clear days before the removal of the waste (para. 4 (3)). Another copy of the consignment note will go to the WDA of the area where the waste was produced in case this is different from the WDA where the waste will be disposed (para 4(6)). Also the carrier transporting the waste will carry copies of the consignment note. When the waste arrives at the final disposal site the disposer has to complete the final part of the consignment note and send a copy of this to the WDA where the waste was produced. This will close the 'circle'. The WDA of the waste producer will then know that the waste has arrived at its final destination and has not been diverted, during transport, for example, to an unlicensed site. One copy of the consignment note is kept at the final waste disposal site.

Exceptions from the general section 17 provisions

Para. 9 provides powers for WDAs to make special arrangements for frequent transports of special waste

streams of similar composition from one waste producer to one disposal site. These are simplified procedures which are also known in the industry as "season tickets". Producers only have to notify the WDA once of the movement of wastes. Subsequent movements are then covered for a certain period of time by one section 17 note. The WDA where I conducted field work operated such a simplified procedure for regular movements of special wastes. Failure to comply with the provisions of the section 17 regulations constitutes a criminal offence (para. 16).

Water pollution control regulation

Since I carried out field work at waste treatment plants, legal regulations concerning the discharge of effluent into the public sewer were also relevant. There is a general prohibition against placing substances into public sewers if they are 'prohibited substances' or could interfere with the sewage system (section 111 WIA 1991). But trade effluent can be discharged into a public sewer if a sewerage undertaker's consent authorizes this (section 118 (1) of the Water Industry Act (WIA) 1991). The sewerage undertaker can impose conditions on the consent (section 121 WIA 1991). These conditions can restrict the concentration of particular substances in the effluent, for example heavy metals. Often and in the case of the U.K. waste treatment plant where I conducted my field work, the sewerage undertaker is part of the privatized water companies.

Offences

Under section 118 (5) WIA 1991 the occupier of the premises from which trade effluent is discharged without a consent is guilty of a criminal offence. Contravention of the conditions of a consent constitutes a criminal offence (section 121 (5)) WIA 1991.

1.2.2. Germany

Basic aspects of waste management regulation in Germany and the U.K. are quite similar, also because this is an area which has been harmonized through the EC Waste Framework Directive 1975 (75/442), as amended by Directive 91/156. When I conducted the field work, the main provisions affecting waste management plants in Germany were contained in the Waste Disposal Act 1986 ("Abfallgesetz" (AbfG)). Similar to section 3 (1) COPA waste can only be treated, stored or disposed of in facilities in Germany which have been licensed for this purpose (§ 4 (1) phrase 1 AbfG).

The German federal Parliament can pass statutes on waste management regulation. The different "Länder" can only legislate on those issues which have not yet been regulated by the federal statute (article 74 no. 24 German Basic Law). The legal framework for waste management regulation in the different "Länder" varies. In the following section, I will focus only on basic aspects of waste management regulation which are the same in the different "Länder". The federal government has

powers to pass legal regulations which are addressed to the waste regulation authorities and set standards for the disposal of waste (in German: "Verwaltungsvorschriften" (§ 4 (5) AbfG)). Among other issues these regulations cover technical aspects of waste disposal. In content they are partly comparable to the WMPs in the U.K.

Licensing

§ 7 (1) AbfG makes provisions for the licensing of waste management plants. The building, operation and a material change of a waste management plant have to be licensed by the relevant authority through a procedure called plan determination (in German: "Planfeststellungsverfahren"). This procedure is specified through general German administrative law (§§ 72 ff. Administration Procedures Statute (in German: "Verwaltungsverfahrensgesetz" (VwVfG))). In contrast to U.K. law, the planning permission for the waste management facility is part of a German waste management licence issued under § 7 (1). Under this section there is only one integrated licensing procedure which deals both with planning and waste regulation aspects.

Under § 7 (2) a less elaborate procedure for the licensing of waste management plants can be applied, the so-called authorization procedure (in German: "Genehmigungsverfahren"). This procedure is used for waste management facilities which are considered as less

significant in comparison to plants which are licensed under § 7 (1). The statute lists criteria that define in which cases the less complex licensing procedure can be applied (§ 7 (2) AbfG).

Conditions

The German RA has powers to impose conditions on the waste management licence, as far as this is necessary for ensuring the welfare of the public (§ 8 (1)). It is the normal case that conditions are imposed. § 8 (1) provides for the possibility of adding new conditions or modifying existing ones after the licence has been issued.

The RA has powers to supervise the disposal of waste (§ 11 (1) AbfG). § 11 (2) gives special powers to the RA in connection with wastes which cannot be disposed of together with waste arising in households. These powers relate in particular to the provision of information by waste holders about such wastes.

Offences

It is a regulatory offence (in German: "Ordnungswidrigkeit") to treat, store or dispose of waste in an unlicensed facility (§ 18 AbfG). In Germany, the Penal Code ("Strafgesetzbuch" (StGB)) provides for environmental criminal offences. For example, it is a criminal offence if somebody treats, stores or disposes of waste without permission outside a licensed waste disposal facility (§ 326 (1) Nr. 3 StGB). In order to

commit this offence the waste has to fulfil certain criteria. For example, it has to be capable of deteriorating the quality of a water course, the air or the soil according to its nature, quantity or composition of polluting substances. Regulations

Disposal certificates - "ENs": The federal government has powers to pass regulations (§ 4 (5) AbfG). One of those regulations is the "Abfall- und Reststoffüberwachungsverordnung" (AbfRestÜberwV) (3rd of April 1990; BGBl III 2129-15-6). This regulation was relevant for the handling of waste at the German waste management plant where I conducted field work. The regulation applies to waste producers, waste carriers and waste disposers (§ 1 (1) AbfRestÜberwV).

If a waste producer is covered by the provisions in § (2) or (3) AbfG then he has to prove to the RA that the proposed disposal path for his waste is permissible (para. 8 AbfRestÜberwV). These wastes are partly comparable to the U.K. special wastes. The waste holder proves through a paper procedure that the proposed disposal path for his waste is permissible. When proposing how to dispose of the waste the waste holder has to consider in particular the possibility of recycling (§ 8 (1) AbfRestÜberwV). The paper form on which the disposal path of 'special wastes' is authorized is called the disposal certificate ("Entsorgungsnachweis" ("EN")). The "EN" comprises three parts. Firstly the "responsible declaration" ("verantwortliche

Erklärung) of the waste producer, the acceptance declaration ("Annahmeerklärung") of the waste disposer and the disposal authorization ("Entsorgungsbestätigung") of the waste regulation authority in the area of the final waste disposal plant (§ 8 (2) AbfRestÜberwV).

The waste producer has to fill in the "responsible declaration" of the "EN" (§ 9 (1) AbfRestÜberwV). Then he has to send the "EN" to the final waste disposer (§ 9 (2)). The final waste disposer has to fill in the acceptance declaration of the EN form (§ 9 (3)). Then the final waste disposer will send the "EN" to his RA (§ 9(4) AbfRestÜberwV). The RA has discretion either to approve or reject the disposal path (§ 9 (5), § 9 (7)). The waste carrier has to have a copy of the "EN" with him during the transport of the waste (§ 9 (9) AbfRestÜberwV).

Exceptions

§ 10 AbfRestÜberwV provides for an exception from the general procedure of the "EN". Under this exception one "EN", the so-called "Sammel-EN", can be used for several loads. In this case several waste loads are mixed together, if they can be classified under the same waste description and are disposed of through the same disposal path. The mixed waste load has to conform to the parameters specified in the "EN". The individual waste loads, which are to be disposed of through a "Sammel EN", each have to remain below a certain limit. This is 1.1 cubic metres in the case of solid wastes and 3 cubic

metres in the case of liquid waste (§ 10 (1) Nr.4 AbfRestÜberwV). In the case of "Sammel ENs", the waste carrier has to fill in the "responsible declaration", part of the "EN" (§ 11 AbfRestÜberwV).

Transport certificates

The transport certificates in Germany (in German: "Begleitschein") (§ 14 AbfRestÜberwV) are similar to the U.K. section 17 notes. These are used as evidence for the actual disposal of wastes which require particular supervision ("besonders überwachungsbedürftige Abfälle"). There are 6 copies of the transport certificate. In contrast to the section 17 note in the U.K., however, there has to be no prior notification of the waste regulation authority. No more than 10 days after the acceptance of the wastes from the waste carrier the final waste disposer has to send 2 copies of the transport certificate to his waste regulation authority as proof of disposal (§ 16 (2) AbfRestÜberwV). Then the waste regulation authority of the final waste disposer will send one copy of the transport certificate to the waste regulation authority in the area of the waste producer. The 'circle' is then complete.

Offences

It is a regulatory offence not to fill out, or not completely fill out, or fill out wrongly, a disposal or transport certificate (§ 27 AbfRestÜberwV).

Technical guidance for special wastes ("TA Abfall")

The "TA Abfall" (12. März 1991, GMBL, S. 139, ber. S. 469) addresses the RA, not necessarily third parties like waste management operators. The "TA Abfall" applies to wastes defined under § 2 (2) AbfG. These are wastes which require special supervision and are partly comparable to the U.K. special wastes. The "TA Abfall" is important because - inter alia - it provides a catalogue which connects waste streams, identified through waste descriptions, to particular types of waste disposal facilities. Hence, when waste disposers apply via the "EN" for a particular disposal path, then the German RA should refer to this catalogue for comparing the proposed disposal path with the recommendations of the "TA Abfall".

Water pollution control regulation

The German waste treatment plant discharged effluent into the public sewer at the end of the treatment process. This discharge is controlled by legal provisions. The German federal Water Law 1986 ("Wasserhaushaltsgesetz" (WHG)) puts the onus on the "Länder" to regulate indirect discharges ("Indirekteinleitung") such as the treatment plant's discharge into the public sewer. The "Länder" passed the duty of detailed regulation mostly on to the districts ("Kommune") (see for example § 52 Hessisches Wassergesetz). The German waste treatment plant had a

discharge consent ("Einleitegenehmigung") which, very similar to the U.K. consent, sets limits for the discharge of some substances in the effluent.

1.3. The actors

In the following section I want to give the reader a mental picture of the German and U.K. waste treatment plants and their activities. This description of the locality will provide a framework for the activities at the plants described in the main body of the thesis. I will give a written description of the plants because for confidentiality reasons I can not provide a drawing of them in an appendix to this thesis.

The U.K. waste treatment plant

The U.K. waste treatment plant dealt with liquid wastes, mainly from industrial processes such as metal plating or painting. The waste was brought into the plant by tankers. Near to the entrance of the concreted yard of the plant was a site office in which the paper documentation accompanying the waste loads was dealt with. Tankers would be weighed on a large weigh-bridge when arriving at the site and when leaving. After the initial weighing, tankers would drive onto the yard to the discharge points for the liquid waste. A sample of the tanker's waste might be taken there. Behind the discharge points (the "grids"), the filter presses, pumps and some pipework were housed in a large building. Behind this building were numerous tanks of various sizes in the

bunded tankfarm. In these tanks the wastes would be stored, mixed and treated. There was also a chemical laboratory on site, a portacabin office for the transport unit and the sales staff, as well as a mess room for the employees working on the yard.

The German waste management plant

At the German waste management plant, the waste treatment plant was only one aspect of the operations. Part of the plant was also a transfer station where liquid and solid industrial wastes were temporarily stored and then passed on to final waste disposers. As at the U.K. waste treatment plant, there was a chemical laboratory, a site office for the handling of the paper documentation of incoming waste loads and a weigh-bridge. There was also a separate office block in which the "EN" paper procedure was handled. The waste treatment plant was smaller than the U.K. plant and its tankfarm was housed in one building.

The waste regulation authorities

At the time of my field work, the county councils were mainly responsible for waste disposal regulation in the U.K. In the metropolitan areas, the district council was responsible, though in some areas a joint body had been set up. I mainly had contact during the field work with the lowest level of staff in the U.K. waste regulation authority who would regularly visit, supervise and licence sites. These field officers had managers such

as team leaders who would spend a greater proportion of their time than the field officers in the office on management tasks. In Germany, it varies in the different "Länder" which level in the administrative hierarchy is responsible for waste disposal regulation. As in the U.K. RA, I observed in the German RA the work of the lowest level of staff who supervised and licenced sites.

1.4. The study, an outline of the thesis

The thesis is divided into 5 parts. Part I consists of the literature and methodology chapter (chapter 2 and 3). This part will discuss what the issues are that I will be exploring in the main part of the thesis. Why are they interesting and relevant? How did I carry out research on those issues?

Parts II and III comprise the main body of the thesis. In these two parts I will report the empirical data which I collected during my field work. Part II includes 4 chapters (chapters 4,5,6 and 7). Chapters 4,5 and 6 deal with the question in what contexts compliance occurs. How do contexts affect compliance? Chapter 4 deals with commercial contexts and compliance. Chapter 5 explores what role technology plays in the achievement of compliance and chapter 6 discusses whether work group norms are relevant for understanding compliance. Chapter 7 deals with strategies for managing various standards for compliance in the context of waste management.

Part III deals with data on direct interaction between the regulated and the regulators. It includes 4 chapters (chapter 8,9,10 and 11). Chapter 8 deals with the negotiation of standards for compliance during site licensing and in the field. Chapter 9 discusses the question how standards are adapted. It also attempts to explain some aspects of negotiation. Chapter 10 explores what role information plays in the forming of perceptions about compliance at waste management sites. Chapter 11 discusses how operators manipulate information and perceptions about waste management sites.

Part IV consists of 2 chapters (chapter 12 and 13). Chapter 12 and 13 are the analysis chapters. Chapter 12 discusses formal and empirical concepts of compliance and law. Chapter 13 explores the subjective and cultural dimensions of a concept of compliance and discusses the implications of my research findings for debates on discretion and the indeterminacy of rules.

CHAPTER 2: CONCEPTS OF COMPLIANCE IN THE LITERATURE

2.1. Introduction

This chapter has three purposes. First, the chapter aims to locate the thesis within a body of research by discussing literature on the concept of compliance. Secondly, on the basis of this literature review, I will explain what particular approach I have taken in my thesis for investigating the concept of compliance. Thirdly, the chapter will raise themes and questions which arise out of a discussion of the literature and which need to be addressed when thinking about compliance.

The chapter is divided into three main parts. In the first part I will deal with the question why I chose not to study discretion or enforcement or white collar crime but why I studied compliance. Why is compliance interesting and into what debates can knowledge about the nature of compliance feed ? The second part of the chapter will deal with different theoretical and methodological approaches to discussing compliance. In the third part of the chapter, I will look in more detail at issues raised when exploring compliance. In particular, I will discuss the relationship between rules and social practices and the tension between structure and agency in shaping this relationship.

The structure of the chapter reflects the approach I will take in discussing compliance. First of all, it is

important to understand why I described the research topic as compliance. Defining the subject matter as compliance, rather than as other topics, raises different questions for research than other topics. Secondly, the issue of compliance raises epistemological questions about how we can gain knowledge about the law. It is important to consider such issues before looking at more detailed questions raised by a concept of compliance because different concepts of compliance proceed from different epistemological assumptions. Also, it is important to tackle these premises directly because often they have not been made explicit in the literature. After the discussion of different approaches to compliance, I will deal with detailed points in relation to compliance. Hence, the structure of the chapter will indicate that what a concept of compliance entails is the outcome of the research and cannot be defined a - priori.

2.2. Why compliance?

2.2.1. Why is compliance relevant?

Questions about the relationship between rules and social practices - and compliance is a key-issue in this relationship - inform a range of socio-legal discussions, for example about the impact of law, the social origins of law and the institutional dimensions of law. Compliance also feeds into theoretical debates about the nature of law and social order. Perspectives on the

nature of compliance tend to be associated with various ideological beliefs about how social order is achieved. For example, in the political philosophy of liberalism, the formal law plays an important role in achieving social order (Fine, 1984:20). In some accounts of modern society, bureaucracy is perceived as a corner stone in achieving social order (Weber, 1978, vol. 2, chapter XI). But detailed empirical studies on the relationship between rules and social practices might question these images of the importance of formal law or the power of the bureaucracy. Can formal social order as exercised in bureaucratic structures be undermined through informal small-scale social orders within those bureaucracies ? In Marxist perspectives on social order, economic conditions are considered as paramount in determining social action (Fine, 1984:110). Can small-scale social orders subvert economic imperatives in companies?

Thinking about the nature of compliance can feed not only into certain aspects of "grand theory" but also into other concepts such as power and information. To know how compliance is achieved or what it means to different actors can help to understand the dynamics of power. The nature of compliance can also shed light on a concept of information. Different actors might have different perceptions of compliance. Their views might be based on different interpretations of information. This stresses the subjective aspects of information. Information might tell us more about the process through

which it is generated rather than what it purports to describe.

In short, exploring the nature of compliance raises theoretical and conceptual questions. However, this still leaves open the question: why was compliance chosen rather than white collar crime or deviance or discretion?

2.2.2. Related fields of study

Compliance was chosen to allow for a broader approach to rules and social practices. The main focus in deviance, non-compliance or white-collar crime is on the lack of compliance (see also Adler/Asquith, 1981:2). This focus takes for granted a concept of law and forecloses analysis of the nature of law. To inquire into how rules and social practices are defined is to take a step back. So, the question becomes how are distinctions between compliance and non-compliance achieved. Compliance and non-compliance cannot be considered as unproblematic concepts and as preordained. An exclusive focus on enforcement and on what official legal actors such as enforcement officers do would be too narrow to explore the nature of compliance. Also, it is important to consider, what the regulated do in day-to-day routine practices. Hence, this study is not an attempt to replicate an enforcement study (see e.g. Hawkins, 1984) in a new setting such as waste management regulation in the U.K. and Germany.

It could be argued that my research question could have been adequately conceptualized through the notion of discretion. Some research which has discussed the relationship between rules and social practices has chosen discretion as its focus (Hawkins, 1992:v). In my view there are three aspects in the concept of discretion that make it less useful for conceptualizing my research problem about the nature of compliance. First, discretion seems to be more concerned with "top - down" rather than "bottom - up" perspectives. Secondly, it emphasizes agency. Thirdly, it considers a notion of law as preordained.

"Top - down" and "bottom - up" perspectives

In some perspectives, discretion is the power of legal actors to mould the interrelationship between rules and social practices (Bell, 1992:95, Goodin, 1986; Adler/Asquith, 1981:2; Bankowski/Nelken, 1981:ch. 12; Davis, 1969:4). In my view this represents a "top down" perspective because discretion is perceived as the power of official legal actors to decide if and how the rules apply. In my study of compliance I wanted to avoid this assumption. I wanted to frame the research question in such a way as to include the possibility that compliance is defined by the powerless, and by actors in regulated organizations, allowing for the situation that compliance could be constructed from the "bottom - up" rather than the "top - down".

An emphasis on agency

Not all perspectives on discretion are "top - down". Some have a modified "top - down" approach. One modification is where some writers take into account "unofficial discretion". Sometimes enforcement officers simply assumed discretion where according to the law they had none (Hawkins, 1992:11, Young, 1981:33, 34). But this approach still assumes that the relationship between rules and social practices is shaped by actors. Discretion is linked to power in the sense of ability to act (e.g. Bell, 1992:93). This neglects structural aspects - unrelated to immediate agency - such as technical structures which might determine the relationship between rules and social practices and which are unrelated to immediate agency.

Law as pre - given

In contrast to the concept of discretion, compliance has the potential to address more fundamental issues in the relationship between rules and social practices. Discretion is concerned with procedures for applying legal rules. For example, how much do enforcement officers consider themselves constrained by legal standards laid down in discharge consents when enforcing water pollution legislation in the field? (Hawkins, 1984:78, 79). How are legal rules implemented

in social welfare agencies (Smith, 1981)? How are the provisions applied for a compensation fund for handicapped children who have been damaged by the thalidomide drug app (Bradshaw, 1981)? How are legal rules from the supplementary benefits scheme implemented (Prosser, 1981)? In contrast, compliance is concerned with procedures which are used to define the contents of law. By evaluating if the requirements of the law have been met, that is by evaluating if behaviour of the regulated constitutes compliance or non - compliance, the contents and nature of law is addressed. Hence, the concept of compliance is better suited to deal with issues such as the nature of law than the concept of discretion.

2.3. Approaches to compliance

As noted above, for much of the literature which addresses compliance the concept itself is taken for granted and hence is not the main focus of inquiry. Thus, one of the purposes of this section is to make explicit what are often only implicit assumptions about the concept of compliance. As we shall see, an important issue for unravelling the different concepts of compliance in the literature is to understand the particular approach taken by authors. As a result, epistemological questions about what can be considered as knowledge about compliance become relevant.

In the following, section I will draw on literature on discretion and rules, on white collar crime and literature on the implementation and enforcement of law in order to examine critically and in more detail what light they shed on discussions of compliance and what questions they raise for further research. I will look at literature both from Germany and the U.K. and some literature from the U.S. Given that compliance itself is rarely tackled directly, let us start with the question of how we can generate knowledge about the nature of compliance.

2.3.1. How is knowledge about compliance generated?

The most fundamental issue for characterizing different approaches revolves around the question: how can we generate knowledge about compliance? Some research takes compliance for granted, as some unexplained notion of "fulfilling legal requirements" (see for example Ayres/Braithwaite, 1992:20). Empirical data are collected in order to measure the occurrence or lack of occurrence of compliance (DiMento, 1986; Sutton/Wild, 1980); to find out reasons for non-compliance (Dawson/William/Clinton/Bamford, 1988; Shover/Clelland/Lynxwiler, 1982; Palmer/Bartlett, 1977; Stover/Brown, 1975); or to discuss strategies for achieving compliance (Genn, 1993; Braithwaite, 1985; Frank, 1984; Braithwaite/Geis, 1982; Stone, 1981). Implicit in this approach is the assumption that the

concept of compliance is unproblematic and that there exists one authoritative version of what compliance is. Some accounts have addressed briefly aspects of the nature of compliance (e.g. Hawkins, 1984, ch. 6). Compliance is considered here as having symbolic significance and evaluations of compliance by enforcement officers take into account the attitude of the regulated (Hawkins, 1984:109). In other perspectives legal texts are treated as sources for defining legal requirements with which there is or is not "compliance":

"Where the legal standard is fairly precise, then little room will be left for more than 'evaluation' and this fits well into the notion of 'weak discretion' (Bell, 1992:99)".

According to this statement, precision or vagueness - and hence discretion - is determined a-priori, by looking at the legal standard, rather than by research in the field. But can we really determine in the abstract if a standard is precise or not? In practice, will the standard appear differently to the enforcement officer and the company which is subject to regulation? The limitations of legal texts in explaining what becomes defined as law have been recognized (Hawkins, 1992:11). Such limitations also seem to exist in the area of waste management regulation. In both the U.K. and Germany, waste management regulation contains conflicting aims such as environmental protection and ensuring the economic viability of individual waste management companies. Waste management regulation in Part II of EPA 1990 or the "Bundesimmissionsschutzgesetz 1990" or the "Abfallgesetz

1986" are only "enabling" acts which leave the concrete and detailed provisions of the law to be defined by secondary legislation and those who apply the law in enforcement agencies. In short: waste management regulation has characteristics which make it difficult to deduce from legal texts how legal obligations are applied in practice.

Studies which recognise the limits of legal standards in determining discretion have taken into account how enforcement officers defined legal obligations and ultimately compliance (Hawkins, 1984; Bardach/Kagan; 1982; Ullmann, 1982; Mayntz, 1978). But there is also still the role that the regulated may play in defining compliance. Focusing on the regulators assumes that they are more important than the regulated for defining the law in practice. An emphasis on how official legal actors handle legal doctrine assumes institutional definitions of law. Yet for much of the literature the regulated organization has often remained a "black box". Taking into account how the regulated define the law also allows a broader range of social practices that might have an impact on definitions of law in the field, to be taken into account. Organizational factors from both the regulators and the regulated can be considered.

"Good" and "bad apples"

There is also a problem in the literature with the basis upon which perceptions of the regulated rest. Some of the literature has made clear-cut distinctions between the regulated who "comply" and those who do not "comply", for example by using the notion of "good" and "bad apples" (Scholz, 1984b:184; Bardach/Kagan, 1982:92). But how do we know if a company is a "good" or "bad apple"? Can we obtain reliable and clear data to make this assessment? How much information do the regulators obtain about the regulated? What counts as data? Some literature suggested that it is difficult to obtain complete or accurate information about a company (Yeager, 1991:270). Enforcement officers only see certain aspects of the operation of the regulated (Kagan, 1984:45). A North-American lawyer has stated that:

99% of the audited sources were found to have submitted reports which were not full and complete. Clearly the assumption that source reports constitute a reliable data base is invalid" (Macbeth, 1978:13).

Some authors have conceded that it might be difficult to get the distinction between "good" and "bad apples" always right (Scholz/Kagan, 1984:79). But, this too assumes that in principle "good" and "bad apples" exist as two separate categories.

The notion of "good" and "bad apples" has also been attacked from a different angle. It has been argued that it neglects structural reasons for non - compliance which can be located in the structural framework of

capitalism. In this framework companies have only limited resources to internalize externalities such as pollution or injuries to their workers (Pearce/Tombs, 1991:415, 418). But in my view this is an immanent critique which leaves intact the idea that in principle a distinction between "good" and "bad apples" can be made. The criticism extends only to how different researchers have perceived the distribution of "good" and "bad apples" (Pearce/Tombs, 1990:425, 426; Pearce/Tombs, 1991:420).

Problems with the concept of information

The idea that it is difficult to obtain reliable data about the behaviour of the regulated might be taken one step further. It is not just that the regulators depend on the regulated organisations for information but the whole concept of information might be problematic. What social processes underlie the construction of "information" ? How do power and conflicting interests manifest themselves in definitions and descriptions of events at regulated companies? Do different work roles influence definitions of compliance? At waste management plants do the chemists' view on compliance differ from those of the sales staff? Do the regulated companies exercise control over the information they pass on to regulators? Do they present a particular version of events to the regulators? Can we obtain "hard information" consisting of technical data which is not open to subjective interpretation in the area of

environmental regulation? Is there just one objective view of what happens in a company ? Can actors inside a company and those outside the company, such as regulators, have conflicting views on what is the most appropriate perception of a company? Whose criteria are relevant for defining "good" or "bad apples"?

Some of these questions, for example, concerning what impact different roles have on perceptions of compliance, have been debated in the literature. Quinney (1963:148). in his study of prescription violations by pharmacists found that there were different job orientations among the pharmacists. On the one hand there were business - oriented pharmacists; but on the other, there were pharmacists who saw their job more closely related to the physician's profession and its values. Quinney linked the fact that the "business" pharmacists had higher prescription violations than the other pharmacists to these two differential norm systems (Quinney, 1963:185). But in other literature which looked at the regulated organization the relevance of different roles and attitudes of the regulated has not been greatly explored. Braithwaite (1984:348 and chapter 3) refers in his study on crime in the pharmaceuticals industry to the chemical laboratories in which drugs are tested for side-effects. But he does not discuss what the attitude of the chemists were, what they understood as compliance or crime, and how this compared with the attitude of other groups of staff in the organization. Where the literature has dealt with contrasting perceptions of compliance in

different parts of an organization it has been in the regulatory organization. In regulatory agencies senior employees' conceptions of compliance were sometimes different from those of field staff (Rüther, 1992:154; Hawkins, 1984:181). This raises the question: what influences the understanding of compliance or non-compliance? What social processes affect what counts as information about compliance? There might not be a single concept, but different images of compliance. The important implication from this is that it is necessary to go into the field and consider small-scale factors which influence what attitudes and interests become realized in specific settings. There is little point in considering the relationship between social practices and law in the abstract without considering the values and perceptions of those who construct this relationship in the field.

The social construction of compliance

Those accounts in the literature which have adopted a social construction perspective have problematized the concept of compliance. They do not take the concept of compliance as pre-given but investigate how a notion of compliance is achieved. In other words being a "good" or a "bad apple" might only be a perception, not an objective truth (Krislov, 1972: 339). Hence, the analysis in some of the studies which contain classifications of the regulated such as "good" and "bad apples", "amoral

calculators", "political citizens", "the organizationally incompetent" (Bardach/Kagan, 1982) need to be complemented by different perspectives gained through the collection of small-scale data among the regulated.

One of the fundamental assumptions of a social construction approach of course is to perceive reality as socially constructed (Berger/Luckmann, 1967:7). Hence, it is necessary to draw on empirical data in order to unravel the processes by which any body of 'knowledge' comes to be socially established as 'reality' (Berger/Luckmann, 1967:15). In this "social construction" perspective empirical data do not provide access to the "truth" but are important for tracing how different and relative notions of social reality become established. Hence, the notion of social reality is not taken for granted but problematized and investigated.

Although "social construction" perspectives draw on modernist thinkers such as Durkheim, Marx, Weber and Mead (Berger/Luckmann, 1967:27), they are not positivist and social construction approaches move away from modernist perspectives. Social construction perspectives share three characteristics with postmodernist perspectives. First, although social construction perspectives do not go as far as postulating the death of the subject (Hall, 1992:281; Graham/Doherty/Malek, 1992:14), they recognize the multiplicity of different perspectives of social reality held by different subjects (Berger/Luckmann, 1967:26). Secondly, social construction perspectives perceive the limits of "grand theories" in explaining the

world. Instead, they can support exploring small-scale processes through which actors construct their world (Graham/Doherty/Malek, 1992:23). Berger and Luckmann (1967:49, 85, 110,96) investigate processes such as "scopes and modes of institutionalization", "sedimentation and tradition", "legitimation" and "language". Thirdly, according to postmodernist perspectives there is no such thing as valid or invalid knowledge (McLennan, 1992:336; Haldane, 1992:179). .

While Berger and Luckmann's approach still contains a criterion of valid knowledge, i.e., that the processes through which social reality becomes established have to be unravelled, it also contains a relativist element. Actors construct their world which is valid to them. Meaning for individuals is constructed through their situational, small-scale worlds rather than determinist structures in society.

Postmodernist ideas have also been important in influencing approaches to legal analysis. In postmodernism, the text has become the object of study. Hence, the task becomes the deconstruction "of the free play of *différance* in the discourses that inhabit the writing" (Graham/Doherty/Malek, 1992:5). In discourse analysis, the language of the law is perceived as an important indicator of the "social and historical genesis and motivation of the legal text as instrument of social regulation and discipline" (Goodrich, 1987:ix). Particularly important in Goodrich's work is the notion of unravelling law as a language of power (Nelken,

1996:10; Goodrich, 1987:ix, 123). Other accounts emphasize less the idea that legal texts exercise social control in the process of creating meaning. In those accounts legal narrative is simply seen as the transformation of events and sentiments into stories which impart meaning (Papke, 1991:4).

Discourse analysis is of limited use in exploring issues of empirical compliance because it focuses on an analysis of formal legal texts such as cases (see for example Goodrich, 1996; Goodrich, 1987:201-203). The law is defined as "tradition", "precedent" and "immemorial usage" (Goodrich, 1990:vii). Social practices are mostly studied by reference to formal legal materials using techniques of socio - linguistics rather than through an empirical investigation of behaviour in relation to law (Goodrich; 1990:vii). A few studies focused less on formal legal materials but have applied socio-linguistic and semiotic analysis to organizational decision-making in the face of disasters such as leaks of radioactive material from Sellafield (Manning, 1992) or how the police handle calls from the public (Manning, 1988). Thus, discourse analysis is mainly applied to written texts and spoken words. An important source of my data, however, was participant observation which does not lend itself well to discourse analysis. I had to rely on participant observation because in a work context people did not always have the time or inclination, particularly in relation to sensitive matters such as not fulfilling site licence requirements, to talk about their

activities. Hence, while discourse analysis of law is interested in a "challenge from within" (Goodrich, 1987:7), I am interested in an exploration of law through empirical sociological methods. It has even been argued that postmodernist perspectives are incompatible with a notion of social science. Postmodernism undermines any truth claims, so how can it claim for itself to be true, and, moreover, what is the relevance of a particular account if all is relative (Haldane, 1992; Graham, 1992:209, 211)? Though some themes of postmodernism are clearly relevant for investigating society it may be that to carry out social science inquiries, elements of modernist methodologies are essential (Graham, 1992:211).

Hence, the focus and methods of discourse analysis of law do not accommodate my research question. There are similiar themes though, in discourse analysis and questions about empirical compliance. Goodrich (1987:5) rejects a notion of legal practice as "specialised, non-rhetorical, activities removed from the everyday commitments and discourses of social and political practice and conflict". My research question about the social construction of compliance also aims, with different methods and on the basis of a different concept of law from Goodrich's, to explore the relationship between legal and social practices in everyday routines of waste management regulation at plants and in regulatory authorities.

Goodrich's interest in analyzing law as discourse also extends to exploring the ideological context in

which the rhetoric of law is to be located (Goodrich, 1987:208). He (1987:208) considers ideology "as a programme or strategy in relation to the terms of social life" which can be located in law as discursive practices. My research question also deals with ideology as the relationship between material conditions of existence and belief systems (Eagleton, 1994:6). In chapters 4 to 11 of the thesis I will examine how conditions of the existence of waste management plants, such as their technology and commercial aims, influence beliefs about what legal requirements are and what constitutes compliance with them. My approach, however, as to how ideology can be studied is different from that of Goodrich. I do not consider formal legal texts as predominantly the most important source for studying ideology but in my view behaviour in relation to law is also significant and is an important manifestation of ideological beliefs. I did not consider formal legal texts as the source to explore ideology because I did not want to start this research with an a-priori notion of law that defines law mainly in terms of formal legal sources. The question thus arises: what methodological approach goes with the "social construction" perspective adopted for this thesis?

Berger and Luckmann (1967:22) state that they consider their sociology of knowledge as a contribution to sociological theory, and not to the methodology of sociology. In my view "grounded theory" approaches (Glaser/Strauß, 1967) fit in well with the ideas of

social construction. Glaser and Strauß (1967) argued that the main division in empirical sociology is not between qualitative and quantitative data but between an emphasis either on the generation or the testing of theory in research (Glaser/Strauß, 1967:17). According to them, empirical data should not just be used for verifying, modifying or rejecting aspects of "grand social theory" but empirical data could be used in a more creative way to generate small-scale "grounded theory" out of data (Glaser/Strauß, 1967:7). This process reflects a "bottom - up" rather than "top - down" perspective (Worsley, 1992:81). The way in which social scientists develop "grounded theory" is similar to the process through which actors construct their social reality through their everyday experiences. Thus, research based on a social construction perspective does not claim superior status or direct access to an unquestioned notion of social reality but provides one specific account that draws on the perceptions of particular actors in a specific setting.

Hierarchy: implications for concepts of compliance and social order

A further characteristic of social construction approaches of compliance is to abandon hierarchical notions of social order. In contrast to this, some of the German implementation literature works with a hierarchical notion of law (Müller, 1980; Knoepfel,

1979; Bohnert/Klitzsch, 1980; Windhoff-Heritier, 1980:220). For example, Mayntz (1980:10) does not completely abandon the idea of a hierarchical relationship between the formal legal programme and its implementation. She states that empirical data show a lack of direction from the central level "despite a formal relationship of hierarchical dependency" (emphasis added) between the legal programme of the federal government and implementation action of regulatory authorities. This research, however, qualifies the notion of a hierarchical link by recognizing that the determination of the contents of the programme is not finished at the stage of passing legislation or approving political programmes. Instead, during the implementation phase, the contents of a political programme becomes further defined (Mayntz, 1980:10; Knoepfel, 1979:40; Hegenbarth, 1980:132).

The formal law as a starting point for analysis

Concepts of compliance which use the notion of the "gap" and which draw on formal legal materials imply hierarchical notions of social order. Some concepts invoke the notion of "deviancy" when they talked about the "gap" between the aims of a programme and its realization (Mayntz, 1980:236; Knoepfel, 1979:63). Hence, this research still uses the formal legal programme as the main benchmark for evaluating the success or failure of the implementation process:

"Generally it can be said that the actual freedom of decision-making by the administrators increases in proportion to the margin of interpretation that legal concepts provide for (emphasis added) and in proportion to the complexity of the factual situation. Their freedom of decision-making decreases in proportion to the likelihood or possibility of being inspected by third parties" (Hegenbarth, 1980:136).

How we define the original legal framework has an impact on how we explain "compliance". If our notion of the legal programme is not based on formal law then the goal posts for compliance also shift.

In "top-down" perspectives formal definitions of the law are accepted as starting points. Phenomena are defined by reference to the legal system. For example, discretion is explained as that space for making decisions which is unrestricted by the law:

"The ideal type of a 'rule' is an authoritative, mandatory, binding, specific and precise direction to a judge which instructs him how to decide a case or resolve a legal issue. Discretion describes those cases as to which a judge, who has consulted all relevant legal materials, is left free by the law to decide one way or another" (Greenawalt, 1975:365).

Some literature abandons "legal paradigm" perspectives and employs sociologically informed perspectives. Such accounts step outside the perceptions and assumptions of the law and utilize an external perspective. These approaches are interested in using data about the social context in which law operates to reconceptualize legal concepts. An example of this perspective is a "naturalist" perspective on discretion (Feldman, 1992; Lempert, 1992; Emerson/Paley, 1992; Manning, 1992).

Baumgartner (1992:130) talks about the "myth" of discretion. She challenges the concept of discretion and replaces it with a view in which general and unchanging sociological laws determine behaviour.

Other research does not completely abandon legal frameworks for explaining social phenomena but still refers to them:

"The power to negotiate, which is central to compliance systems, is one which exists by implication only but one made possible because the law is not made concrete or specific (emphasis added). Regulatory law is permeated with uncertainty" (Hawkins, 1984:22).

Negotiation is explained by reference to the legal framework rather than other explanatory frameworks such as political or economic power or patterns of interaction between the regulated and the regulators irrespective of the law. Thus, the question arises to what extent do we need to examine frameworks other than legal frameworks? Do we need to transform our ideas of what a legal framework is?

Another concept of compliance which draws on hierarchical notions of social order is based on empirical data which were mainly collected among the powerful in organizations. This follows a tendency of social scientists to study "the language and perspectives of elites" when studying social order for example through examining stratified conflict (Baumgartner, 1984:339). Some studies on compliance have focused on collecting data among managers in organizations (see for example

Grabosky/Braithwaite, 1986:1,2; Clinard; 1983; Mayntz, 1978).

Some concepts of compliance in the literature draw on an alternative perception of social order. This allows for the possibility that social order is constructed from the "bottom - up". Hence, "bottom - up" perspectives stress the point that the content of legal programmes is constructed in the field at the lowest level in organizational hierarchies. They require the more absolute rejection of the notion of an abstractly determined formal legal programme than some of the German implementation research. A study that goes some way to abandoning "legal paradigm perspectives" argues that the concept of the "programme" should be redefined (Knoepfel/Weidner, 1980). It distinguishes between the core of a programme ("Programmkern") and the outer layers of a programme ("äußere Programmschalen"). In their view, the actual implementation practices should be considered as part of a redefined version of the "programme" (Knoepfel/Weidner, 1980:93, 101). Baumgartner (1984) looks at various strategies used to reduce the amount of social control that "superiors" exercise over those subject to them. Such strategies were covert retaliation, non-cooperation, appeals for support, public shaming, flight, distress and self-injury. Similarly, Young (1981) and Smith (1981:47) have pointed out that, to understand the implementation of social work policies, it is important to take into account not just discretion exercised by professional staff such as social workers

but also the discretion exercised by clerical and administrative staff.

To abandon exclusively "top - down" perspectives has implications for how questions about compliance are framed. At what level do we have to consider the relevance of economic, social and political frameworks for the social construction of compliance? According to "bottom - up" perspectives, the question is how do frameworks become constructed rather than starting from frameworks as pre-given. The research in this thesis will look at how economic and political frameworks become constructed on a small-scale level and how they affect compliance. For example, how do perceptions of economic aims at the levels of different work groups, such as chemists and sales staff, have an impact on what is understood as compliance? What are the political relationships between different work groups at the plants? I have described in this section different approaches to compliance. This, however, still leaves open the question of how a social construction approach works in practice. Through what techniques is compliance socially constructed?

Techniques of the social construction of compliance

The literature discussed some techniques of the social construction of compliance, such as labelling. Labelling theory recognizes that being a criminal is a perception not an objective truth

(Inverarity/Lauderdale/Feld, 1983:5; Göppinger, 1980: 47). Patterned interaction between the regulated and the regulators had an impact on who became perceived as criminal or as compliant. Labelling theory looked at the social processes through which people become cast as deviants (Becker, 1963). Some of these ideas can be transferred to the context of organizational crime. It has been argued in the literature that in the area of North-American environmental law, "violations breed violations", because detailed reporting requirements that are triggered by violations produce further violations (Anderson, 1980:1467). This mirrors a central idea in labelling theory according to which people who are cast as deviants become stigmatized (Göppinger, 1980:47). This in turn is considered to promote further "criminal" behaviour (Pfeiffer/Scheerer, 1979:49). But it has been argued that stigma works differently in the areas of business and individual crime because business actors actively participate in the construction of stigma through image management (McBarnet, 1991:323; Denzin, 1978). For example, McBarnet and Whelan (1991:848) looked at "creative compliance" in the area of corporate finance. The concept of "creative compliance" illustrates how "powerful economic interests" can use the law in order to avoid the "spirit of the law" while still being able to formally comply with legal requirements.

The interesting point about the notion of "stigma management" is that it allows more than just economic or social "factors" to be taken into account when

considering what influences compliance. It opens up research questions about interpersonal aspects in the relationship between the regulated and the regulators. For example, the trust and confidence of the regulatory authority in the regulated might be the only protection against enforcement actions where the regulatory authority would constantly find violations for which it could prosecute (Anderson, 1980:1467). This raises the question of how confidence and trust influenced what became evaluated as compliance or non-compliance in the setting which I researched? What does this tell us about the ability of actors to shape definitions of compliance independently of structures? How important are aspects of the personality of actors in comparison to financial resources? Where do trust and confidence which draw on emotional and not just cognitive processes leave "top - down" approaches to understanding compliance?

One implication of the idea of stigma management is that negotiation is an important aspect of the interrelationship between the regulated and the regulators (Baldwin, 1990:324; Winter, 1985; Hawkins, 1984; Ullmann, 1982:19, Bohne, 1980; Hucke/Müller/Wassen; 1980; Downing 1979:372; Mayntz, 1978:40). This raises the question of how important negotiation was as a technique of the social construction of compliance in the setting which I researched? What is the theoretical significance of negotiation? Negotiation as a form of interaction between the regulated and the regulators can undermine images of social reality that the law conveys. We may,

for example, have to rethink the notion of legitimacy. The legitimacy of the acts of the regulatory authority might not rest so much on the formal authority of administrative law but on the mutual consent of the regulated and the regulatory authority to these acts (Bohne, 1980:38). While German administrative law conveys the idea that the orders of the regulatory authority ("Verwaltungsakte") are imposed on the regulated, empirical studies have shown that these orders are often negotiated (Mayntz, 1978:40). The question thus arises: to what extent these techniques of the social construction of compliance are similar or different in diverse countries. What is the relevance of different legal systems or cultures for explaining social practices? Let us now turn to comparative issues on compliance.

2.4. Comparative issues on compliance

Why a comparison?

A comparative approach to exploring the concept of compliance enables us to address a question which is at the core of this thesis. How important is the "living law" for understanding the nature of compliance and ultimately the nature of law? Can there be similarities in the "living law" while there might be differences in the formal legal framework? What impact did the legal

frameworks in the U.K. and Germany have on the relationship between rules and social practices?

Why did I choose to conduct a comparative study in the U.K. and Germany? The two countries are sufficiently alike to conduct a comparison. In both countries a system of liberal parliamentary democracy and capitalist economy operates. Also, the legal contexts are similar enough to conduct a comparison. In 1975 the EC Framework Directive on Waste (75/442, O.J. L194/23) created a basic system for waste management regulation. While there is enough congruence between the two countries to conduct a comparison there are also sufficient differences to raise interesting comparative questions. For example, what relevance, if any, for understanding the relationship between rules and social practices, has the fact that Britain has a common law system, while Germany works with a civil law system.

There are further differences between the U.K. and Germany that might have an impact on how the relationship between rules and social practices is perceived. At the time I conducted the field work in the U.K., it was perceived that there were sufficient disposal capacities. In fact the U.K. imported waste for disposal (ENDS Report no. 231, 1994:34, no. 233, 1994:28). In contrast to this, in Germany there was a considerable shortage of waste disposal facilities (Bernstorff, 1993:10). How did this difference in the market of waste disposal services affect how compliance was constructed on the ground with site licence conditions which restricted how much waste

can be taken into a plant ? Furthermore there are differences in perceptions about the way the public administration, which is responsible for the implementation of waste management regulation, is organized in the U.K. and Germany. The German administration is perceived as influenced by a bureaucratic culture which dates back to the Prussian administration and is governed by a complex and dense web of developed administrative and constitutional law (Siedentopf, 1986:68). Has this any relevance for how compliance becomes constructed on the ground? More generally, environmental protection legislation is sometimes perceived as more advanced in Germany. In Germany, the regulatory authority has powers under the "EN" procedure to direct waste to be disposed in particular types of plants according to environmental considerations (see chapter 1). Powers for U.K. authorities under the section 17-special waste procedure (see chapter 1) are more limited. What does an exploration of a concept of compliance tell us about the perception that the German regulatory authority has more powers than the British regulatory authority?

The approach to the comparison

If we start from the idea that reality is socially constructed (Berger/Luckmann, 1967:7) then the focus for the comparison become techniques of social construction rather than pre-given concepts. Often comparisons are

invoked to compare and contrast a well-defined issue such as legal provisions (Zweigert/Kötz, 1987) or a policy (Vogel, 1986) or the occurrence of discretion in different legal systems (Davis, 1976). The comparative question here, however, is what does the behaviour of the regulators and regulatory authorities tell us about the nature of compliance ? Thus, for this comparison theoretical concepts derived from social science and not legal frameworks provide the starting-point (King/Garapon, 1987:472). In any case, comparative research points to the limits to using formal administrative law as the starting point for research (Whelan, 1982; Kahn-Freud, 1974) and particularly in a regulatory context. Whelan (1982) and Kahn-Freud (1974) have pointed to the limits of a legalistic approach to comparative labour law which is too optimistic about the possibilities for translating formal legal provisions from one country to another. It has been stressed that there is a move away from a "command style" of making and implementing policy (Böhret, 1986:39). Instead, policies are not imposed, but negotiated with a range of interest groups. Public policy making becomes privatized. One of the reasons for this privatization process is that the administration is increasingly dependent on private interest groups for information on complex areas of regulation (Habermas, 1976:62; referred to in: Richardson/Gustafsson/Jordan; 1982:10). Thus, a focus on formal administrative law as a reference point for analysis might be misleading.

Hence, the aim of this comparison is to explore how the "living law" is socially constructed in two specific settings in the U.K. and Germany. Are differences in the formal law (see chapter 1) reflected in the "living law"? Can an understanding of the "living law" modify our ideas of how much importance should be attributed to the formal law and change our notion of what "law" is? Hence, it is important for the comparatist:

"to refuse to take experience as given and to try to see how experience is conditioned, how it is shaped, how patterns of consciousness evolve" (Legrand, 1995:263).

Not to take concepts as pre-given in turn puts more emphasis on the role that the researcher plays in constructing accounts of comparative law. These accounts cannot be neutral comments. Instead the researcher's involvement with and her changing perception of her own and the foreign legal culture will influence how accounts of comparative law are constructed (Legrand, 1995:262). The purpose of the comparison is to examine the relationship between social practices and law in two different countries. Using comparative data helps to avoid making general statements about compliance on the basis of data that are grounded only in the legal and cultural framework of one country.

In the more traditional approach to comparative law, formal legal concepts in different legal systems are compared (see for example Zweigert/Kötz, 1987). In this approach law is considered as pre-given and hence the

focus is on the "law in the books". This has been criticized by Laurence Friedman (quoted in Legrand, 1995:262):

"traditional comparative law turns a blind eye to everything but surfaces".

What is normative or legal for social actors might not be encompassed in a formal definition of law because the cultural dimension of law is neglected (Legrand, 1995:262). For example, Zweigert and Kötz (1987) compare the Germanic and Romanistic legal families with the Anglo-Saxon legal family. These legal families are defined with reference to formal law (Zweigert/Kötz, 1987:70). Cultural aspects are not completely neglected, but they tend to be invoked in such a general way that they can not explain the occurrence of specific legal obligations. They (1987 :71) recognize that differences between the Anglo-Saxon and the Germanic and Romanistic legal families have decreased more and more but they nevertheless explain the differences between them in the following way:

"If we may generalize, the European is given to making plans, to regulating things in advance, and therefore, in terms of law, to drawing up rules and systematising them. He approaches life with fixed ideas, and operates deductively. The Englishman improvises never making a decision until he has to. As Maitland said: he is an empiricist. Only experience counts for him; theorizing has little appeal; and so he is not given to abstract rules of law. Convinced, perhaps from living by the sea, that life will controvert the best laid plans, the Englishman is content with case-law as opposed to enactments" (Zweigert/Kötz, 1987:71).

Characteristics of national styles of regulation

A focus on formal law has also raised problems for research that attempted to identify characteristics of national styles of regulation. In this literature "legalistic" and "pragmatic styles" of administrative behaviour are identified. The German administrative system is described as "formalistic" in contrast to the "pragmatic" and "flexible" style of the U.K. system (Siedentopf/Hauschild, 1990; Siedentopf/Ziller; 1988, vol. 1; Meny, 1985:180). According to the "legalistic" style, the administration adheres strongly to the formal law. Situationally-specific decision-making would be considered in this style as a conflict with the principle of the subordination of the administration to law. In contrast to this, the "pragmatic style" is characterized as providing discretion for the administration and involving informal behaviour of the administration and a co-operative relationship between the regulated and the regulators. Germany is considered to follow a "legalistic style" while the U.K. is regarded as pursuing a "pragmatic style" (Siedentopf/Hauschild, 1990:453). But do empirical data on routine enforcement behaviour support this distinction between the style of behaviour of the German and the U.K. administration?

A similar way of characterizing national styles of regulation is adopted by Vogel (1986). In his study he describes national styles of regulation referring also to environmental regulation. He characterizes the U.S.

system as formalistic, legalistic and more reliant on punitive strategies (Vogel, 1986:21). In contrast to this, the British system of pollution control is described as flexible, pragmatic and reliant on compromise and negotiation rather than sanctions (Vogel, 1986:21, 70). Vogel arrives at these characterisations through reference to the formal law. For example, the point about the flexibility of the U.K. system of pollution control is backed up by a discussion of the then existing concept of "best practicable means". It provides a considerable amount of discretion for regulators to set standards for a specific plant and hence to adapt standards to the technological and financial ability of industry to comply with them (Vogel, 1986:22,81). In contrast to this, U.S. standards are described as technology - forcing (Vogel, 1986:22). Vogel states that in practice during the implementation of standards in the U.S., there has been deviation from these standards. Deadlines for achieving standards have been put back and there has been negotiation between the regulated and the regulators (Vogel, 1986:146, 168). But this recognition of a difference between formal characterisations of regulatory styles and practical implementation does not lead Vogel to change his descriptions of policy styles in the U.S. and the U.K. This raises the question of how important it is to look at lower levels of implementation in order to provide an adequate description of a national style of regulation. Characterisations of national styles of enforcement

such as Vogel's anticipate the social dynamics of implementation by drawing conclusions from formal legal material about how implementation works in practice. But there might be problems with this. It is argued in the German context that more formal law does not lead to more formal regulation in practice but can have the opposite effect. More formal law can lead to an overload of administrative agencies and at the end increases the "enforcement gap" which can lead to less regulation on the ground (Bohne, 1984:373). Legal frameworks have influenced analysis in other ways also. The fact that there is more formal law in relation to which a "gap" can be constructed seems to have led to a stronger emphasis on "gap analysis" in the German literature.

"Gap" analysis in German literature

The essence of "gap" analysis is to perceive rules and social practices as distinct, self-contained concepts which are separated from each other through the "gap" (see for example Pearce/Tombs, 1990; Hopkins/Parnell, 1984:180; Hucke, 1980:83; Bohnert/Klitzsch, 1980:200; Winter, 1975:28; v. Welck, 1973:147). "Gap" analysis focuses on non-compliance. Some research employs strong forms of "gap" analysis whilst other research employs weaker versions. An example of strong "gap" analysis is Yeager (1991:13, chapter 7) who distinguishes between "publicly stated purposes" of the legislation and its

"implementation". Mayntz (1980:236) defines the following as the aim of implementation research:

"It is at the centre of scientific interest to find reasons for the existing discrepancies between norm and reality, between the aim of a political programme and its actual effects" (my translation)

In this perspective the norm is pre-given. Some researchers, however, have pointed out that insight into implementation requires an understanding of how norms of behaviour are attained (Spittler, 1970:205; Evan, 1962:183). Particularly in the area of environmental regulation, where the regulated and the regulators may have conflicting views on what the law entails, it is important not to take the meaning of norms as pre-given. "Gap" analysis assumes that the formal law has autonomous normative power. But the "reality" of the norm might not be a deviation from the "law" but the result of the implementation of a different notion of law (Lenk, 1980:255). Furthermore "gap" analysis raises the question of what happens in the "gap"? Are there social norms that set standards for behaviour and that have more normative appeal than the formal law?

It seems that the German literature has been influenced by the fact that there is more developed formal administrative law in Germany than in the U.K. with which actual enforcement practice can be contrasted. There is a more developed system of formal law on two levels. First, there are principles from the written constitution that govern the relationship between state and citizen in enforcement situations. There is the

notion of the "Rechtsstaat" and the subordination of the administration to law and statute ("die Bindung der Verwaltung an Recht und Gesetz" according to article 20 (3) German Basic Law) (Bohne, 1980:74). This formally sets limits to the discretion that the German administration can exercise. Administrative action always has to be authorized by statute and has to follow general legal principles. Sometimes, German regulatory authorities negotiated with regulated companies all the important details in informal talks before the start of the official licensing procedure (Bohne, 1980:29). This would in effect undermine legally guaranteed rights of participation for third parties because the regulatory authority had committed itself already beforehand to a certain position on the site licence in negotiations with the operator. This practice could infringe article 20 (3) of the German Basic Law (Bohne, 1980:74). Furthermore some accounts of the implementation of German environmental law have revealed that some operators were allowed by regulatory authorities to fail to comply while others were made to comply (Heine/Meinberg, 1988:94, 97, 161; Schönke/Schröder, 1988, §§ 324 ff. Vorbem. Rz. 2). This could be in conflict with the equal treatment principle which is enshrined in article 3 (1) of the German Basic Law ("Gleichbehandlungsgrundsatz") (Bohne, 1983:207).

Secondly, there is a developed system of administrative law which, through the Administrative Procedure Act 1976 ("Verwaltungsverfahrensgesetz"),

provides for general principles of administrative law and which complements specific environmental law such as waste management regulation. Duties imposed on the regulated by the regulatory authority on the regulated have to be sufficiently specific in order to be valid (§ 37 (1) VwVfG). Thus, both areas of norms, constitutional principles and administrative law provisions provided a back-drop against which it might have been easier than in the U.K. to conclude that there was a "gap" in relation to the implementation of legal provisions. As Michael Hill argues (quoted in Vogel, 1986:77):

"The British system... minimizes that disrespect for administrative action which arises where political 'goals' and practical implementation achievements are markedly out of line".

In the U.K., at least from a legal point of view, discretion in administrative behaviour might be considered as less problematic. Hawkins' study (1984) on the implementation of water pollution legislation in the U.K. does not consider the question of whether discretion exercised by enforcement officers in the field is in conflict with legal principles. But this is a question that some German authors, such as Bohne (1984; 1980:37) find important to raise.

. So, what relevance does administrative law have in the relationship between the regulated and the regulators? Does law revert to being merely a resource in negotiations or a framework in whose shadow the regulated and the regulators bargain (Mnookin/Kornhauser, 1979)?

Conclusion

The focus of this thesis is to examine the nature of compliance by looking at the relationship between social practices and law. The main referent for the comparison is not an unquestioned and pre-given notion of the law and legal frameworks in the U.K. and Germany, but the purpose of the comparison instead is to explore if there are differences in the techniques of the social construction of meaning of law in these two countries, in the particular settings which I researched. How do perceptions of the "living law" compare to the characterisation of administrative styles in some of the literature? How useful is the formal legal framework as a reference point for describing the behaviour of the regulated?

So far, I have discussed literature on compliance. Some of it has worked with an unexplained notion of compliance as fulfilling legal requirements. This contains implicit assumptions about compliance. Some of these premises relate to methodological issues. How do we know about compliance? To what extent can we rely on legal texts and enforcement officers' definitions of legal requirements? What role do the regulated play in defining legal requirements? To what extent are these methodological choices about appropriate sources for defining law influenced by a hierarchical notion of social order that might be open to challenge? These questions assume particular poignancy in a comparative

context because comparative literature has often taken formal legal frameworks as its starting point. In the following section I will discuss further substantive aspects of a concept of compliance such as how can we understand the concepts of rules and social practices and how are links between rules and social practices created?

2.5. Issues in a concept of compliance

2.5.1. The relationship between rules and social practices

Introduction

To recap, compliance deals with the relationship between rules and social practices and in this thesis, a "social construction" approach to investigating compliance is taken. As a result, an a-priori definition of legal rules cannot be given. One aim of the research is to find out how actors in the field construct what they understand to be the contents of legal and other rules. Social practices refer to the behaviour of actors in the field and are broadly defined. They do not just encompass behaviour that is consciously directed at following or not following rules, but also include behaviour which primarily does not relate to legal rules. In this sense, it is broader than the term "law in action". The issue of what we can understand by the term rules and social practices is complicated by the fact

that the two concepts cannot be considered in isolation but are intertwined. If we reject positivist notions of law, then social practices become relevant for defining law. Thus, one of the crucial issues that emerges in discussing compliance is the question to what extent law and social practices can be considered as separate categories or to what extent they can be equated? This illustrates that understanding the concept of compliance will shed light on the nature of law. In the following section I will discuss the different ways in which the relationship between rules and social practices has been conceptualized in various views of compliance. Let us look first at views which perceive law and social practices as separate categories.

2.5.1.1. Law and social practices as separate categories

Law as pre - given

The way in which some of the literature perceives law and social practices as separate categories, is illustrated by how the notion of discretion is used. Discretion is perceived as mediating the transformation of law into social practices:

"Discretion is inevitable because the translation of rule into action, the process by which abstraction becomes actuality, involves people in interpretation and choice" (Hawkins, 1992 :11).

Hence, the very notion of discretion as mediating between rules and social practices affirms them as separate

categories. They are, however, also perceived as closely related in the sense that "the use of rules involves discretion, while the use of discretion involves rules" (Hawkins, 1992:12). But legal rules are perceived as a separate category by being distinguished from "social and organizational rules" which are considered as important for understanding how discretion is exercised (Hawkins, 1992:12). A further example of a conceptualization of rules and social practices as separate categories, is the perception of discretion as the "hole in the doughnut". According to Dworkin (1977:31, referred to in Hawkins, 1992:14) discretion takes its meaning from a context of rules and exists only "as an area left open by a surrounding belt of restriction". This conception has been criticized for portraying a wrong image of legal rules in perceiving them as clear standards which can provide the benchmark for defining discretion. Standards, however, are often vague, abstract or conflicting (Galligan, referred to in Hawkins, 1992:14).

Law and social practices as part of a hierarchical relationship

Sometimes the account of rules and social practices as separate categories involves the perception of a hierarchical relationship between them. The expectation is that the law, as a separate category, contributes to shaping social reality by virtue of its formal authority. In these accounts the formal authority

is not constituted by social practices but is pre-given and autonomous. Hence, law is not one among a range of other normative orders but is considered as the strongest form of a normative order. For example, enforcement officers are perceived as working on the basis of a "legal mandate" (Hawkins, 1984:23). What the law defines as the task of the enforcement officer is pre - given and the formal law is a source of authority:

"The purpose of this collection is to use the contributions and ideas of both the law and the social sciences to explore some of the central issues involved in the use of discretion by legal actors - those individuals who work in the legal system or in legal bureaucracies, making decisions in the exercise of an authority conferred on them by law (emphasis added)" (Hawkins, 1992:v).

Indeterminacy of legal rules

The theoretical literature on indeterminacy in legal rules has problematized the concept of law, in particular in regard to determining what extent we can clearly define the contents of legal rules. Critical legal studies literature on indeterminacy spans a wide range of different accounts (Bix, 1996:184) but a key-theme in the literature is both a moral and analytical concern with uncertainty in legal decision-making, in particular in the judicial settlement of legal disputes (Boyle, 1992:xx). Literature on the indeterminacy of legal rules has analyzed reasons for indeterminacy such as language. The question arises: what other factors,

apart from language, have to be taken into account when examining why there is uncertainty in the meaning of legal rules. What role do social practices play? Do critical legal studies accounts go far enough in problematizing a concept of law? To what extent do they still operate with a-priori notions of law? Do some critical legal studies accounts perceive law as existing in the autonomous and self-referential world of the "legal system"? By contrast, some accounts have found ways of linking rules and social practices. One of them uses the notion of "legal ideology" in order to construct a closer relationship between rules and social practices.

Legal ideology: a mediating link between rules and social practices?

According to Cotterrell (1992:270), enforcement practices shape legal ideology. But the notion of "legal ideology" might not create a sufficiently strong link between rules and social practices. According to Cotterrell, the distinction that has developed between "real crime" and "regulatory crime" has influenced beliefs about law in the sense that regulatory crime is considered as less serious and less deserving of sanctions. He refers to the fact that usually only a small number of the regulated are perceived as "black sheep" or "rotten apples" in legal ideologies (1992:270). It is interesting and important to refer to the dimension of legal ideology which creates a link between rules and

social practices. For example, the ideological belief that business offenders are less deserving of sanctions has influenced to what extent the law is actually enforced. But this does not really tell us much about the relationship between rules and social practices. The crucial issue still is - and Cotterrell does not really deal with it: how specific links between rules and social practices, for example in relation to the sanctioning of business offenders, are created in the real world. What are the techniques through which this is achieved?

Furthermore, Cotterrell (1992:246) distinguishes legal ideology from law. Law is defined by reference to institutional doctrine. He recognizes the impact of social practices on rules: "enforcement practices determine the effective meaning of the law for the regulated" (Cotterrell, 1992:270). But his approach still seems to be more closely related to a view of law as a separate concept with its distinct characteristics such as formal authority. He focuses on enforcement practices, i.e., on actions of official legal regulators, rather than the social practices of the regulated. He states that "enforcement practices represent an accommodation between different normative systems (emphasis added)" and uses the concept of the "living law" (Ehrlich, 1962) as distinct from the formal law. Thus, while Cotterrell's notion of legal ideology goes some way towards perceiving rules and social practices as related categories, it might not go far enough.

2.5.1.2. Equating law and social practices

Other literature has gone further and viewed law and social practices as similar concepts. Criticism of Dworkin's notion of discretion as the "hole in the doughnut" makes it clear how law and social practices can be perceived as more similar concepts. In this perspective, discretion is not so much perceived as the space between rules and social practices. Instead, on the one hand, discretion becomes closely linked to the notion of rules because discretion also involves the setting of standards (Galligan, 1986:3). On the other hand, discretion becomes closely linked to social practices because the exercise of discretion is influenced by social and organizational factors (Hawkins, 1992:12). Social practices can become normative.

This idea is taken one step further by Baumgartner (1992) who argues that social practices are more normative than legal rules. According to Baumgartner, social practices connected with intimacy, respectability and status defeat the purposes of some legal rules in the criminal justice system which are designed to ensure equality before the law (Baumgartner, 1992 :117). Her argument is particularly strong because it draws on data from a range of societies across the world, not just those in the West.

By stressing the fact that discretion also involves the setting of standards, a distinction between the concepts of rules and social practices starts to break

down. As a consequence, pre-ordained concepts of law have to be abandoned. This has important implications for research questions. The issue is not the hypothetical testing of which pre-given or abstractly deduced definitions of law and social practices are more convincing, but, the generation of empirically informed theory: how in a specific setting definitions of law and social practices are achieved and how law is constructed through social practices. Hence, the focus on the relationship between social practices and law informs the nature of law. It is crucial to note that in this perspective compliance is more about a concept of law rather than compliance with law.

Considering law and social practices as similar concepts rather than self-contained categories then raises new research questions such as what are the techniques through which social practices become the "law in action"? Research that has looked at negotiation between the regulated and the regulators has found that negotiation can become a way of "bridging" law and social practices. There can be various aspects to this. First, through negotiation between the regulated and the regulators standards might be agreed (Hawkins, 1984:127; Mayntz, 1978:37). Secondly, through negotiation standards can be adapted to what the regulated can comply with (DiMento, 1986:28). Thirdly, judgements about what constitutes fulfilling legal requirements can be negotiated (Yeager, 1991:15; Hawkins, 1984:127).

It could be argued that the idea of equating law and social practices is tautological. By defining the two terms with reference to each other they would be meaningless. As part of "a thoroughgoing legal pluralism" law could be distinguished "from other social norms only in vague terms" (Silbey, 1991:820). It might, however, be possible to identify specific links in the relationship between rules and social practices. First, it might still make sense to talk of law as a separate category but what becomes defined as the legal norm might have its origins in social practices. The way legal standards in waste management licences are defined could be an example of this. Licences are written by referring to "working plans" which are descriptions of what the regulated do in practice in operating the plant. Secondly, law might become "displaced". This means that the regulated do not follow the "formal law" but they follow social practices which replace the legal norm. Thirdly, social practices might modify the law. The concepts of social practices and law would become intertwined because social practices in the field might not completely displace the formal law but change only certain aspects of it. For example, the regulated might comply with the requirement of testing incoming waste loads. They might, however, restrict these tests to certain loads because they follow the social practice that they know the contents of regular loads from experience.

Conclusion

In this section I looked at a key issue in trying to understand the concept of compliance. This concerns the relationship between rules and social practices. In the literature this relationship has been imagined in different ways. Two positions can be identified. On the one hand there are accounts which perceive the law and social practices as separate and distinct categories. On the other hand there are accounts which perceive law and social practices as less distinct and more as similar concepts. The crucial issue about the relationship between rules and social practices is that it ultimately tells us something about the nature of law. In order to understand the nature of law it is necessary to inquire into the techniques which can be used in the field for creating links between rules and social practices. For example, how much is it up to actors in the field to actively construct links between rules and social practices and to what extent is the relationship between rules and social practices determined by structures?

2.5.2... Structure and agency in the relationship between rules and social practices

A further important issue in order to understand the nature of compliance is the role of structure and agency in the relationship between rules and social practices. Various different types of structures have

been referred to, such as the economic structures of capitalism (see for example Carson, 1981; Grymer, 1979), the structures of formal organizations and a structural power differential between the regulated and the regulators. Barnett (1981) describes the structural relationship between corporate crime and American corporate capitalism in the context of white collar crime in the area of product-safety, enviromental, antitrust and labour law regulation. Pearce and Tombs (1991, 1990) consider the economic imperatives of the capitalist economy as determining what the regulated do in relation to health and safety regulation. Gross (1978) perceives non - compliance as built into the structure of organizations. According to him, organizations are inherently criminogenic because they have to deal with the inevitable divergence between means available to the organization and the ends it tries to achieve (Gross, 1978:56). Some of the White Collar Crime literature employs a structural notion of power which sees power as an intrinsic property of either the regulated or the regulators. Business actors were sometimes perceived as more powerful and able to influence how enforcement agencies responded to them (Barnett, 1981; Bowen, 1978:130, cited in: Clinard/Yeager, 1980:212; Hucke/Bohne, 1979). But such a structural notion of power might not capture the full complexities of the relationship between the regulated and the regulators. Could Denzin's statement on organizational dynamics also be applied to interorganizational relations?

"Power, control, coercion and deception are central commodities that are negotiated over in those arenas that make up the organization" (Denzin, 1978:90).

On the other hand there is research which puts more emphasis on the agency of actors in shaping the relationship between social practices and rules. One example of this perspective is the work on discretion which uses the concept of decision-making for describing the relationship between rules and social practices (Hawkins, 1992:v). In this perspective the actors take decisions that shape the relationship between rules and social practices. For example Bell (1992:99), states that discretion involves the active setting of standards. Feldman uses the notion of decision-making to discuss the social limits to discretion. She is concerned with different approaches to decision-making. She refers to factors such as formal training, informal socialization and routines which influence how actors exercise discretion (Feldman, 1992:172). Also Emerson and Paley (1992:231) emphasize agency in discussing discretion. They consider the interpretative work done by actors in the field as important:

"Yet context has often been conceptualized in ways that inhibit such broader analyses of discretionary decision-making. Viewing context as objective, fixed variables standing outside of and influencing or determining particular decision outcomes has just this effect. Many researchers adopt such a perspective by equating context with 'factors' that correlate with decision outcomes but that do not refer to acts or conditions providing the legitimate focus of decision-making . [...] Here context refers not to variables defined by particular traits but to the processes whereby particular

traits are invoked or made relevant to specific decisions" (Emerson/Paley, 1992 : 232).

Hence, Emerson and Paley move away from the idea that structures determine discretion and they invoke instead a notion of processes which allows more scope for agency than structures.

The invocation of law

Agency is also stressed in Cotterrell's (1992:247) notion of the "invocation of law". The idea that we can understand how the law gains meaning by focusing on the formal invocation of law has influenced some research on compliance. Several studies base their conclusions about the relationship between law and social practices on the examination only of situations in which the law became formally invoked. The emphasis is often on studying the behaviour of enforcement officials who actively invoke the law rather than the routine practices of the regulated (Hawkins, 1984; Bardach/Kagan, 1982; Mayntz, 1978; Hutter; 1988:84; Ullmann, 1982). In other accounts the basis for considerations of compliance were court cases (DiMento, 1986) or incidents which had come to the attention of enforcement agencies and were turned into scandals (Geis, 1978; Cullen/Maakestad/Cavender, 1984; Vandivier, 1978). But the question is if this focus on situations in which the law becomes formally invoked is too narrow. Also, the concept of the invocation of law perceives law and social practices as more separate than

the idea of interpretive work binding the law to social practices as suggested by Emerson and Paley (1992).

Structures can become relevant in two ways for creating meaning of the law. First, structures can simply become relevant in restraining agency. But in this view law still mainly gains meaning through actors' agency. Secondly, structures can restrain agency completely. In this view meaning of the law becomes embedded in structures. This latter notion of structures has not been explored much in the literature.

How much importance should be attributed to the ideas of structure and agency in the specific setting in which I looked at the nature of compliance? If agency plays a role, this in turn raises the question: who are the relevant actors? Is it sufficient just to refer to official legal actors such as enforcement officers or do we also have to take into account those who are subject to legal regulation? Discretion has often been studied in the context of bureaucratic settings (Prosser, 1981; Noble, 1981; Bradshaw, 1981). I looked at the nature of compliance in a technological setting. This raises the question of what role does technology play in understanding the nature of compliance? Can it restrict agency? What role do interorganizational relationships play in creating meaning of the law?

The role of interorganizational relationships in the creation of meaning of the law

In the literature on legal compliance there is not much information about activities within the organization in relation to the implementation of legal requirements. The regulated organization often remains a "black box". More emphasis has been put on the interrelationship between the regulated organization and the regulators. In particular under the heading of "regulatory capture" it has been discussed how interaction between the regulated and the regulators can defeat regulatory objectives (Mileski, 1971; Bernstein, 1955).

There are four points I want to raise in order to illustrate the problematic nature of the concept of "regulatory capture". First, how do we know if a regulatory authority has been "captured"? Vogel (1986:169) states that a co-operative enforcement style in the British system of pollution control cannot be seen as an indicator of "capture". The reason for this is that in the U.S., although the enforcement style there is formally less co-operative and conciliatory, economic interests have nevertheless influenced regulation.

Secondly, sometimes accounts of "regulatory capture" operate with a static notion of power and the organization. One of the shortcomings of the literature on "regulatory capture" is that it focuses on the organization as a whole. What happens "inside" the organization such as conflicts between different parts of

the organization is not greatly considered. Furthermore, literature on "regulatory capture" often perceives the regulated organization as more powerful (Barnett, 1981:4; Brown, 1978:130, cited in: Clinard/Yeager, 1980:212; Hucke/Bohne, 1979). This implies a static notion of power in which either the regulated or the regulators are perceived as more powerful. But power might not be an intrinsic property of one of the parties in the regulatory situation. A range of small-scale factors and circumstances might influence how power is distributed. According to this view, it would be important to look at microsociological accounts of the dynamics of power, the way it is negotiated and brokered between regulators and the regulated in day-to-day enforcement.

Thirdly, the concept of "regulatory capture" seems to imply that we can identify a state of "normal", "uncaptured" behaviour. "Captured behaviour" is defined as the behaviour of a regulatory authority which does not achieve enforcement objectives or where enforcement objectives become watered down so as to suit the interests of the regulated (Bernstein, 1955). Hence, implicit in the notion of regulatory capture seems to be the same problem that occurs in positivist definitions of compliance. This is the idea that it is possible to work with a pre-given concept of what enforcement objectives or legal requirements are. The concept of "captured behaviour" also raises the same problem as the notion of "deviance". In order to make sense of the concept we need to have some idea of what "uncaptured behaviour" or

"compliance" looks like. So, the problem with the concept of "regulatory capture" is not its descriptive power but its implicit explanation. While the regulated might be able to influence the interpretation of legal requirements in their favour this still leaves open the question if this constitutes "deviance", or is it part of an inevitable and routine aspect of how the law gains meaning?

Fourthly, similar to the previous point, it has been argued that low prosecution rates and co-operative styles of enforcement involving negotiation cannot be seen as evidence of "capture". The notion of "capture" does not adequately take into account a wider moral consensus which exerts a powerful influence upon what is otherwise an enforcement situation characterized by ambiguity (Hawkins, 1984:207).

Hence, the question that arises out of the literature on "regulatory capture" in relation to my thesis is not "does the data confirm that the regulated can influence the regulators in their own interests?". Instead, the question is what does "regulatory capture" tell us about the relationship between rules and social practices? Is "regulatory capture" in the setting in which I investigated compliance a "normal" part of how law gains meaning? If so, what does this tell us about compliance and the nature of law?

2.6. Conclusion

In this chapter I have discussed various aspects of compliance. I defined the research question as compliance because this provides a way of exploring issues surrounding the nature of law. Discussing compliance feeds into a range of theoretical and conceptual debates about the nature of power and information, and the role of the formal and the "living law" in creating social order. Different approaches to exploring compliance can be found in the literature. Some approaches follow a "social construction perspective", others did not really inquire into the social processes which underlie the achievement of labels of compliance and non-compliance. The "social construction perspective" allows for the exploration of a different concept of legal requirements when analyzing the relationship between rules and social practices as part of a concept of compliance. Law can be explored not in terms of pre-given legal frameworks but as constructed "from the bottom-up" through social practices. Finally, a range of substantive issues are raised if we inquire more closely into the relationship between rules and social practices. What is the significance of agency and structure in achieving compliance or non-compliance? What specific links can we identify from field observations between rules and social practices?

CHAPTER 3: METHODOLOGY

3.1. Introduction

In this chapter I will describe how I conducted my research project and provide reasons for the methodology adopted. This chapter does not describe just the tools for the collection of the data but shall report the research process through which this project developed. I will discuss the "how" and "why" of my research under five main headings. Firstly, I will describe the reasons for the selection of the topic for this thesis. I will discuss some of the factors that led to the development of a topic after I had been in the field for some time. Secondly, I will describe the scope of this research and its limits. Thirdly, I will discuss the conceptual framework which guides this research. This explains the purpose of the research, the nature of the research question and the subsequent choice of research methods. Fourthly, I will describe in detail how I gained access to data and how I collected them. In the final and fifth part of this chapter I want to refer to some aspects of my research role in the field. This will illustrate that the researcher as a person is part of the data creation and collection process. Hence, the term "capta" rather than "data" might be more appropriate (Worsley, 1992:20).

3.2. Reasons for selecting the topic

3.2.1. Some real life considerations

When I established contact with actors in the field, i.e. the waste management industry and waste management regulators, an opportunity arose to spend some time at a U.K. waste treatment plant and observe the day-to-day handling of waste. I had read the site licence for the facility. When I was at the plant, however, I realized that what appeared to me as non-compliance was not necessarily picked upon by waste enforcement officers when they came for a visit to the site. Also, I became interested in the question how site licence provisions did or did not have an impact on the day-to-day handling of waste. The following issues emerged: "how are judgements that behaviour of the regulated constitutes compliance achieved in practice and how do the regulated achieve compliance ?" What can we understand by empirical compliance?

From my initial field observations the idea arose that compliance is socially constructed. This meant that the question what is empirical compliance could not be answered in the abstract, but the social organization of the context of compliance had to be taken into account.

3.2.2. Approaches to the study of compliance in the literature

After I had preliminarily defined as a topic the question "what is legal compliance in practice?" I conducted the literature review. The question what is compliance had not received much attention. There also

seemed to be shortcomings in the treatment of legal compliance in the literature (see chapter 2). What implications did this have for my research design?

At what level are explanations of compliance pitched?

Macro- and microsociological perspectives

Introduction

In the following section I will describe different approaches to the study of compliance and how their underlying assumptions influenced what was understood as compliance. A major issue for understanding different concepts of compliance and non-compliance is to be aware of the ways knowledge about compliance is generated. Also, research and political issues, which are sometimes linked, are relevant here. The study of concepts of legal compliance can not be seen in isolation from belief systems about law and social reality.

Macro- and microsociological perspectives

The notion that compliance with law is socially constructed was explored in studies which employed a microsociological rather than a macrosociological perspective. These studies explored the particular strategies and attitudes of enforcement officers as well as views of the regulated in regulatory situations (see for example: Hutter, 1988; Hawkins, 1984)..

In contrast to this, macrosociological perspectives referred to structures in society in order to explain the

concept of compliance, for example the nature of the capitalist economy (Winter, 1985; Barnett, 1981). Some Marxist perceptions of "White Collar Crime" look at the general relationship between labour, capital and the state (see for example: Pearce/Tombs, 1990; Evers/Rodriguez-Lores, 1980).

Macro - and microsociological accounts need not be mutually exclusive. Some studies combined both perspectives (see for example: Nelken, 1985; Carson, 1980; Denzin, 1978:87). According to those accounts micro structures contain the structures of society (Denzin, 1978a: viii). As Carson (1980:170) notes:

"To be sure the fluctuating fortunes of interest groups and the clash of normative conflicts may be fascinating and relevant features of the interactional sequences through which ambiguity emerges and is sustained in this context, but its basic substance, I believe, is rooted deeper in the social order as a totality".

In this view, neither macro - nor microsociological accounts alone can provide a complete picture of compliance. While it is useful to link microsociological data to theories of society, there still have been few microsociological accounts of legal compliance. Therefore such accounts can make a valuable contribution to existing research in the area of legal compliance.

External and internal perspectives on compliance

Some of the literature used perspectives which were more external to the actors' own understandings of

compliance situations, while other accounts tried to reflect the actors' perceptions of compliance situations. An example for external perspectives are explanations that referred to economic concepts (see for example Richardson/Ogus/Burrows, 1983). Some researchers who took as their starting point that fundamental structures of the capitalist economy determine business behaviour, saw no value in going out into the field and collecting small - scale data. For example, Winter (1975:31) used as his main analytical framework "incongruous legal and political structures" for explaining the non-compliance of German companies with effluent discharge regulations.

An analysis of compliance which relies on external perspectives has a number of problems. It runs the danger of expressing the preconceived notions of the researcher or making the specific social phenomenon under investigation fit into general social theory instead of bringing out the particular and surprising aspects of social reality (Sutton/Wild, 1980:314).

Furthermore, some of the literature which attempted to explain non-compliance by reference to economic structures has a potentially artificial and static view of the regulated organization. The business organization appeared as a rational actor who adjusts behaviour according to the profit motive (Kramer, 1982:81; Barnett, 1981:5). But there might not be a single unified organization (Braithwaite, 1985:135). Instead there might

be conflicts and coalitions between different parts of an organisation (Bardach/Kagan, 1982:81).

Also, in any case, an abstract notion, such as the "profit motive" might be too general to be useful in practice. Long-term and short-term views on profit might suggest different courses of action for a company in respect of compliance. Different companies may take different views. Large companies might benefit from requirements for compliance with legal regulation because this might drive smaller businesses out of the market. Moreover, economic explanations of compliance behaviour seemed to suggest that compliance and non-compliance occur consciously. But non-compliance might be an unintended side-effect of corporate behaviour and not be purposely calculated. For example, compliance might not be the outcome of an intention to comply with legal rules but may be the consequence of pursuing the commercially most viable course of action.

"Legal spectacles" views of compliance

Another example of an external perspective of compliance is to view compliance through "legal spectacles". This involves taking images of the law as descriptions of social reality. For example, the formal wording of offences in relation to waste management implies a "snapshot" view of compliance by assuming that a judgement about a firm's compliance can be made at any one moment. It does not take into account that there

might be a time dimension to compliance. Compliance is assumed to be static rather than dynamic.

A too narrow conception of compliance is also expressed in "binary" notions of compliance or non-compliance (Hawkins, 1986:1175). According to "binary" notions of compliance, degrees of "compliance" and negotiation over compliance are not recognized. "Legal spectacles" views might influence how the research problem is defined. This is particularly evident in some of the German literature on the lack of enforcement ("Vollzugsdefizit") (see for example: Knoepfel, 1979; Roth, 1977). The focus on a lack of enforcement reflects the perspective of regulators. It also demonstrates a particular perception of compliance. The concept as such is not problematized but the concern is focussed on how to change enforcement practices so as to obtain full compliance.

One reason for this might be the fact that the term "lack of enforcement" was first coined by a German parliamentary committee which examined the implementation of environmental laws and whose task it is to hold the administration accountable (Ullmann, 1982:15). This body was not concerned with inquiring into the nature of a concept of compliance but its remit was to get a perception of the extent of compliance and non-compliance and to make proposals for the effective realization of the goals of environmental law. These policy concerns have also been shared by some social

scientists. As Wollmann (1979) argues academic research on the implementation of law is often interested in the development of policy and social reform (see for example Rütger, 1991; Kramer, 1982:77). Quite a few of the lack of enforcement studies in Germany were carried out in the 1970's when the federal SPD government tried to introduce political reform programmes that involved legislative measures (Wollmann, 1979:18). Some social scientists supported these reforms. They were interested in the implementation of law and in compliance with it, since they were concerned with the broader question of how law could assist progressive social change in society (Wollmann, 1980:20). They were interested in questions such as "how can we achieve compliance" and not "how is compliance socially constructed"; "how can we control non-compliance"? and not "what makes non-compliance functional"?

Social control

A further shortcoming of the "legal spectacles" perspective is that it equates regulation with social control. Official statements by governments for example about the purpose of law are sometimes accepted at face value as determining the contents and aims of political programmes and their statutory expressions (Rottleuthner, 1982:144). Researchers who take this approach might have neglected the possibility that regulated organizations may use the law partly for their own purposes. Consequently, regulatory law would not just fulfil aims

of social control but might also be actively used by the regulated. During the process of implementation legal regulation might acquire meaning in organizational life that differs from what the regulated intended.

Some of the literature has recognized that there might be degrees of compliance (Krislov, 1972:339). Also compliance might be an ongoing activity (Dawson/William/Clinton/Bamford, 1982:70). As Bardach and Kagan noted:

"[...] because compliance usually is not a matter of a one-time expenditure (such as the installation of fire doors and additional sprinklers to meet the fire code) but a matter of ongoing supervision and management" (Bardach/Kagan, 1982:63).

Further limits of "legal spectacles" views: a focus on rules?

Research into compliance that starts with the images conveyed by legal rules or regulatory interests might be too narrow. For example, perspectives on compliance that focus abstractly on rules and ordered patterns of behaviour (see as an example for this: Hogan/Henley, 1972:87) may have neglected the dynamics of compliance in regulated organizations which might not follow rule patterns.

For example, Braithwaite's view of compliance replicated the legal system in the regulated organization. He used the notions of legal rules and case law to conceptualize compliance problems in the regulated

organization. He referred to the problem that Standard Operating Procedures in companies were often not complied with (Braithwaite, 1984: 349):

"[...] executives are forever encountering new environmental circumstances for which the corporate rule book (my emphasis) offers little guidance" (Braithwaite, 1984:350).

Braithwaite cited an executive who told him that what matters are not rule books but the company's case law. If an ethical dilemma occurred the person would be asked to write it down. Then the problem could be passed on to somebody who knew the "corporation's case law" on it (Braithwaite, 1984:350). Braithwaite perceived the limits of "corporate rule books" but argues in favour of "corporate case law" which would enable the RA to be more effective. He took on board his interview respondent's conceptualization of the compliance problem. Similarly, Braithwaite's idea of "enforced self-regulation" assumed that aspects of the legal system just have to be transferred into the regulated organization in order to solve compliance problems.

"Under enforced self-regulation each company would write its own rules. Once these rules had been ratified by the government, a violation of them would be an offence. The company would be required to establish an internal compliance group to monitor observance of the rules and recommend disciplinary action against violators" (Braithwaite, 1982:1503).

But internal compliance groups might suffer the same fate as lawyers in corporations. Stone (1978:253) argued that lawyers will be partly excluded from information on non-compliance, they will only hear the "good news" and

they will not be involved in decision making about production, although this might be relevant for compliance.

In my view, the fact that Braithwaite conducted interviews with managers might have influenced the development of this notion of "rules" and "case law" in the organisation. Staff working lower down in the organization might conceptualize compliance problems differently. They might have first hand experience of chaos and accidents "on the ground" rather than think of their social reality as one which can be adequately described through concepts like "rule books" and "case law".

Conceptualizations of compliance problems which replicated the legal system in the regulated organization were circular because they took the whole imagery of the law and a legal system as both the starting point and the analytical conclusion for describing the process of the implementation of law. They played down the possibility that behaviour in regulated organizations might not follow rules and principles but may occur according to situational and ad hoc logic. The "legal spectacles" view might be misleading in the sort of images of social reality it portrays. It might overestimate the ability of rules to create social order. There might be limits of rules, also in the guidance of enforcement activity. As Scholz argued (1984a:151):

"Although rules are indeed important in the regulation of well-understood systems, their application to poorly understood and misspecified problems in dynamic settings is likely to produce capricious and undesired results".

Furthermore the "legal spectacles" focus on ordered patterns of behaviour in the implementation process might neglect other relevant factors like a concept of culture (DiMento, 1986:160; Clinard/Yeager; 1980:299; Clark/Boyum/Krislov/Shaefer, 1972: 24).

A notion of culture

Some authors have recognized the importance of culture for understanding the implementation of law:

"Stone has referred to the 'culture of a corporation' which is an entire constellation of attitudes and forces, some of which contribute to illegal behaviour. Those factors contributing to illegal behaviour include: a desire for profits, expansion, power, desire for security [...], the fear of failure [...], group loyalty identification [...], feelings of omniscience [...], organizational diffusion of responsibility [...], corporate ethnocentrism [...]" (Stone, 1975:236; cited in Clinard/Yeager, 1980:59).

Intangible factors, which do not necessarily work on a cognitive level like attitudes of staff in a regulated organization, their feelings, the atmosphere in an organization and its self-image, might all have an influence on how compliance is or is not achieved. Also, Sutherland argued that deviant behaviour can be learned (Sutherland, 1983: 240). The individual is socialized into criminal behaviour by his/her association with persons who define the appropriate attitudes and reactions to legal rules (Sutherland quoted in:

Clark/Boyum/Krislov/Shaefer, 1972:24). To take into account culture requires to be aware of the fact that there are formal and informal aspects of an organization (Mayntz, 1958).

Research methods

Not just political aspects and "legal spectacles" perspectives can influence how compliance is understood but also the choice of research methods can have an impact on what we understand as compliance. The research methods used in a study can determine whether explanations of compliance are based on internal or external perspectives. A lot of studies of "White Collar Crime" rely on interviews and/or documentary analysis (see for example Yeager, 1991:12/13; DiMento, 1986: 35,36; Vaughan, 1983:xiii; Ullmann, 1982; Clinard/Yeager, 1980: 111; Mayntz, 1978:14,17).

There are only few studies that actually report day-to-day activities of regulators and the regulated by using techniques of participant observation and observation (see for example Hawkins, 1984; Hutter, 1988). Quite a few studies lacked small-scale data on the day-to-day behaviour of what happens inside an organization in the context of compliance. Thus understandings of compliance were based on secondary accounts such as interviews and written documents, which are more removed from what the actors actually do. Also, considerable reliance on written accounts might skew the

research data towards formal procedures to the detriment of informal aspects of behaviour in the regulated organization. For example, the choice of research methods might influence if we understand non-compliance as distinct acts or part of business practices.

"Non-compliance" as distinct acts or part of business practices?

As Wright and Smith (1982:29) argued, some researchers described non-compliance as a distinct aspect of organizational behaviour which can be clearly distinguished from legal behaviour. Other researchers argued that non-compliance is embedded in a range of business practices (see for example: Wright/Smith, 1982:24).

But how non-compliance is described might depend on empirical knowledge. Difficulties in obtaining first hand empirical data on non-compliance might contribute to perceiving "White Collar Crime" as distinct illegal acts rather than as integrated into business practices. Secondary accounts of "White Collar Crime" will rely on what has become officially defined as specific and clearly identified criminal acts. Empirical investigations of non-compliance based on observation might be more likely to look at non-compliance as connected to and enmeshed in legal business activities. How would one observe just the illegal aspects of the behaviour of the regulated? Perceiving illegal business

practices as distinct acts might preempt an analysis of them as being in breach not only of legal but also of business norms. But the relationship between legal and business norms might be crucial for understanding non-compliance and thus might need to be explicitly addressed.

Conclusion and implications for the research design

Some of the literature adopted partial or particular views on compliance which are to some extent the result of the methods adopted in the studies. The use of macrosociological rather than microsociological data, the application of "legal spectacles" perspectives and policy concerns can contribute to the creation of particular perspectives on compliance. There are shortcomings in these concepts in that they ignored other aspects of compliance. In order to be able to take other aspects of compliance into account it was important to collect small-scale empirical data, at the lower levels both among the regulated and the regulators and to try to understand legal compliance "from within". This approach would facilitate an exploration of questions such as how does the law gain meaning?, what are the techniques through which meaning of the law is constructed? This would help to open up questions about empirical compliance. Some of the literature might have closed off questions for example by assuming that some environmental law is "ineffective".

After I had carried out the literature review I designed the research project as described in the following sections of this chapter. I then went back into the field to carry out the bulk of the field work. Thus the design for this research project developed both out of first field work experiences and out of a literature review. As a result the project was grounded from the beginning in what appeared relevant and problematic on the basis of empirical data.

3.3. The scope and limits of the research

3.3.1. Why "green" compliance?

Compliance has been the object of inquiry in various fields, including social regulation - health and safety and environmental regulation (for example: Genn, 1993; Dawson/William/Clinton/Bamford, 1988; Carson, 1981) - and economic regulation (for example McBarnet/Whelan, 1991). Why did I look at compliance in the context of environmental regulation?

I had a general interest in environmental issues before I started this project. Furthermore, particularly in the German literature, there has been documentation of the lack of enforcement of environmental law. Indeed, the perceived failure of environmental legal regulation contributed to the development of alternative forms of regulation. At the German and EC levels, civil liability provisions have been passed or proposed (for example the German "Umwelthaftungsgesetz 1990" and the proposed EC

directive on civil liability for damage caused by waste (1991 OJ C 192). Hence it seemed intriguing to try to understand what "lack of enforcement" means in practice and how a "lack of enforcement" can persist.

3.3.2. Why waste management regulation?

There have been less empirical data reported in the literature about waste management regulation than in other areas such as water or air pollution regulation (see for example: Böhm, 1989; Hawkins, 1984; Brittan, 1984; Winter, 1975 on water, Mayntz, 1978 on water and air; Downing, 1979 on air). Furthermore it made sense to use data from both the U.K. and Germany because the legal framework is sufficiently similar. There are clear regulatory provisions in the form of licences for waste management sites. Also, the regulation of waste management sites through licences has been mainly harmonized in Germany and the U.K. through the EC framework directive 75/442 (OJ 1975, L194/4) as amended by directive 91/156 (OJ 1991, L 78/32).

3.3.3. Limits of the research

My field work concentrated on two waste management facilities and two waste regulation authorities, one of each in the U.K. and Germany. Though I visited many plants and some waste regulation authorities during the pilot work before the project was focussed on compliance most of the data presented here come from the two waste treatment plants and the two waste regulation

authorities. The scope of the research was constrained in particular by time restrictions and access considerations.

Time restrictions

Time restrictions meant that I could not spend more than three months with each of the four organizations. I spent in total about twelve months in the field. This does not include the time which I spent in the field, conducting interviews with waste managers and visiting sites, before I started to define compliance as the research topic.

It appeared, particularly during the time I spent in the two waste regulation authorities, that three months were sufficient to get an understanding of how enforcement officers carried out their job and how they perceived the issue of compliance. Towards the end of my time with the RAs I kept hearing repeat stories. Similar situations would come up time and again and waste enforcement officers' comments about situations seemed to me familiar. It was difficult to make any further advances in discovering leads and hunches I had not perceived before. In my view three months was roughly the time needed to "slice off" the first layer of data and understanding about the RAs' and plants' activities. It appeared to me that it would have required considerably more additional time to get beyond the data and understanding I could get during the first three months

in the field. Also a longer stay in the field might have required a different research role for me where I would have become more of a participant than just an observer, in order to be able to maintain cooperation from the subjects of the research for further data collection.

Type of company restrictions

I did not get access to waste management companies which are perceived in the industry as "cowboy" operators. These operators might have been particularly concerned about a research project looking at compliance. Both the German and the U.K. waste management companies, to which I got access, were companies who had a professional self-image. The data which I collected about the context in which compliance happened at the plants might be quite different from the observations I would have made at a "cowboy" operator's site. Further issues in connection with access negotiations are discussed in detail in section 3.4. of this chapter.

Since an opportunity arose to conduct field work at a waste treatment plant I collected data among waste treatment plants rather than landfill sites or incineration plants. Some of my observations, for example about "bucket chemistry", are specific to this particular type of waste management facility and are not necessarily applicable to other types of waste management facilities.

Organizational level restrictions

I collected data among the lowest level of staff in the regulated organization and the waste regulation authorities who had responsibility for the implementation of legal provisions. This meant that at the waste management plants I observed the work of the site chemists who were responsible in day-to-day activities for the implementation of the site licence. The site licence prescribes the range of waste streams which a site is allowed to take in and how waste should be handled. Also the site chemists at the waste treatment plants are responsible for the implementation of the discharge consent during the day-to-day handling of wastes. In the RAs I observed how enforcement officers carried out day-to-day enforcement activities.

Given the fact that I collected data at the lower levels of the organizations my data on compliance in practice are specific to that level. On the one hand, this is a strength of the research because lower levels of organizations have been neglected in the literature. On the other hand, this is a limitation of the research. For example, I have no data about the relationship between the site manager and the site chemists at the waste treatment plants. This relationship might, however, be important for understanding decisions made by the site chemist on what wastes to take in and how to handle wastes. Furthermore, the site managers were part of an organizational hierarchy in which their decisions about running a site might be influenced by their managers.

Also in the waste regulation authorities I did not consider how staff higher-up in the hierarchy of the waste regulation authorities influenced how field officers carried out their work. In particular I did not look at the separate, though important, issue of how the political accountability of the RAs to local councils influences their enforcement behaviour (for a discussion of this issue in Germany see: Winter, 1975).

3.4. Conceptual framework

Introduction

Before I describe in more detail how I collected data I want to discuss the theoretical assumptions which underlie the research design for this project. If we perceive data as linked to theory and method within a research design (Burgess, 1982:209) then data are not "out there" in social reality waiting to be picked up by the researcher (Turner, 1988:114) but are part of the accounts of social reality which are constructed by research. In order to claim that these constructs (Bryman, 1988:52) are social science it is necessary to describe and justify how they have been achieved.

3.4.1. Approach towards the research issues

"Grounded theory"

My project follows Glaser's and Strauß's (1967) "grounded theory" approach. Glaser and Strauß argued that the main division in empirical sociology is not between

qualitative and quantitative data but between an emphasis either on the generation or the testing of theory in research (Glaser/Strauß, 1967:17). Glaser and Strauß stated that empirical data should not just be used for verifying, modifying or rejecting aspects of "grand social theory" but that empirical data could be used in a more creative way to generate small-scale, "grounded" theory (Glaser/Strauß, 1967:7).

Hence some of the criticism levelled against empirical research projects, that they are "empiricist" (see for example Pearce/Tombs, 1990), might be misplaced. Research based on empirical data which follows a grounded theory approach is not a-theoretical, as the charge of empiricism implies, but works with a different type and different level of theory (Glaser/Strauß, 1967:32). This is middle-range theory which can be specific to a particular type of social phenomenon. For example, Glaser and Strauß investigated the social processes surrounding the death of people of different social status in a hospital. One of the opportunities of this is that it can enable the development of "grounded theory" for areas of social life which so far have not received detailed attention from "grand social theory" (Glaser/Strauß, 1967:11).

In my view one of the strengths of "grounded theory" is that it arises from empirical data. Hence grounded theory approaches avoid the situation where "grand social theory" is imposed on data or the interpretation of data

is made to fit a theory. "Grounded theory" provides the opportunity to develop theory which remains faithful to the complexities of social life as described through qualitative empirical data. This seems to be of particular value in the area of legal research where some shortcomings of research - as argued in section 3.2.- seem to be due to the application of legal images to social phenomena.

Inductive stance

This research project follows an inductive stance. The main research question "how is compliance achieved in practice?" was refined by following hunches and leads as they arose during the field work. I had no prespecified hypotheses for the research which I wanted to test through empirical data. Instead the research was designed to be exploratory aiming to shed light on how compliance is achieved in practice and thus to raise questions as well as address them.

Interactionist perspective

For collecting qualitative data I adopted an interactionist approach. I was interested in the question of how the law gains meaning in interaction among the regulated, and in interaction between the regulated and the regulators in day-to-day situations of the implementation of the law. In the literature the relationship between the regulators and the regulated seemed to have been more often approached through

macrosociological approaches, involving for example the use of structural notions of power (see chapter 2). Thus, I was interested to get a more small-scale picture of the mundane, day-to-day relationship between the regulated and the regulators.

Why qualitative data?

My research question asked how legal compliance is achieved in practice. This question referred to the social processes surrounding evaluations made by actors in the field about what is compliance or non-compliance. This type of question called for the collection of qualitative rather than quantitative data (Bryman, 1988:140). I did not ask "how much", "how many" or "how often" questions. I did not seek to test a hypothesis in order to make predictions about behaviour and hence did not need to collect quantitative data.

3.4.2. Research methods

I conducted field work involving observation, participant observation, some interviews and some analysis of documentary analysis. Before the topic and a design for this research was devised I had made contact with people in the field and had conducted some interviews with site managers in the industry and waste control officers. These interviews were semi-structured and covered issues relating to waste management regulation. After having been an observer and participant observer at the U.K. waste treatment plant it appeared to

me that interviews would only provide limited data about my research question. Given the fact that compliance with legal provisions would be part of their work responsibilities, managers of sites were sometimes concerned to portray activities at sites in a favourable light. Given my topic, it seemed difficult to get authentic and "deep" data through interviews. As Denicolo (1993) states, the gap between behaviour and interview data can be large. Hence, observation seemed to be the best technique for data collection. It is a research technique which is independent of the subject's willingness to report. Where people might not be inclined or may not have the time during the work day to be interviewed, observation requires less active cooperation from the research subjects (Denicolo, 1993). But during further field work data collection techniques had to be adapted to the particular circumstances encountered.

Flexibility in the use of research techniques

During the period of field work at the U.K. waste treatment plant it appeared to me that it was easier to "blend into the setting" by not just watching in the laboratory how the chemists were doing their work but by "helping" with some work where I could. This meant that I took samples of waste brought from tankers in buckets and filter them, clean lab equipment etc. and become some of the time a participant observer. The environment of the waste management plants, involving the technology of the plant, the chemistry of the treatment process and the

waste streams were completely new to me. Thus, it was necessary to conduct informal "interviews as conversations" (Burgess, 1982:107) with the staff at the plants in order to understand what they were doing and how they perceived situations. These interviews - connected to observations of what staff did - seemed to be a lot more illuminative than interviews without back-up from further data sources.

Also, I looked at a certain amount of documentary sources. These were files on the supervision and the licensing of sites, site licences and some policy statements in the waste regulation authorities. At the U.K. waste management plant I looked at its written procedures for handling waste, its site licence, the discharge consent, and written records used for daily work such as the "incoming waste recording book" and a few memos. At the German waste management plant I looked at the site licence, the discharge consent, its internal lists for the acceptance of waste, as well as quite a few of the legal documents on which the disposal path of waste streams is documented, the so-called "ENs".

During my time with the German waste regulation authority it became clear that the German waste control officers spent considerably less time in the field than their U.K. counterparts. My main technique during my time with the U.K. waste control officers was to accompany them on their field visits and observe and listen to their interaction with employees from regulated waste

management sites. I had to change to some extent my methods in the German waste regulation authority. The German waste control officers spent more time than their U.K. colleagues in the office for example working through files. During that time I would myself study files in which the supervision and licensing of sites had been recorded.

Data from more than one country

I collected empirical data from more than one country in order to broaden discussions on compliance and to avoid having to generalise on the basis of only one national regulatory system. Data from more than one country helped to get some idea of what might be aspects of a concept of empirical compliance that are relevant in different national settings and what might be aspects that are specific to national styles of regulation.

3.5. Data collection in detail

3.5.1. Access: clearing hurdles and a process of cooperation

Access to the waste management plants

Gaining access to the organizations with which I conducted the research was not straightforward and took some time. The first stint of observation with the U.K. waste treatment plant arose as the result of an opportunity to do so, rather than as the result of a planned inquiry (see also Buchanan/Boddy/McCalman,

1988:55). I had met a director of the company who was running the plant at a conference on environmental law. I explained to him that I was interested in how waste management regulation works in practice at waste management sites. I also submitted a written description of the research, in which I stated that organizations which participated in the research would not be identified in the final research report. He arranged for me to visit the site and eventually I stayed on at the site for three months.

In fact the confidentiality undertaking I gave to the organizations involved meant that I could not report some field data from which it would have been possible to identify the organizations. Also, in this chapter I described access negotiations only in a very general way, not using the waste control officers exact job title but referring only to general terms such as "senior officer". I changed all the names of persons mentioned in this research.

In order to obtain access to a German waste treatment plant I contacted about twelve plants by letter. I stated the purpose of the research as an interest in the handling of waste regulation in practice. Most of the firms contacted declined to participate in the research but three firms said they would be prepared to discuss the matter in more detail. I finally had a meeting with the manager of a waste treatment plant with which I had a prior contact point. I had visited a

conference on waste management regulation in Germany the year before. During afternoon sessions of the conference delegates were taken to various waste management facilities. I contacted the treatment plant which I had visited during the conference, stating in my letter that I had previously been at the plant within the framework of the conference. This might have supported my expression of interest in waste management regulation and given me some credibility as a researcher. During the meeting I discussed the contents of my research in further detail with the managing director of the treatment plant. He agreed to my request to stay at the plant for about three months.

Access to the waste regulation authorities

In order to gain access to a U.K. waste regulation authority I contacted the head of the waste control section. (The waste regulation authorities were called waste disposal authorities under COPA 1974 when I carried out my field work but I refer to them here as waste regulation authorities because I only studied their waste control functions). The head of the waste control section granted me an interview and arranged for me to go on a couple of site visits with waste enforcement officers. When I expressed my wish to observe enforcement officers' work over a longer period of time I never received a clear "no" as an answer but contact with the head of the section just petered out. Letters further explaining my request went unanswered.

While I conducted field work at the U.K. waste treatment plant enforcement officers visiting the site had suggested to me that I might be interested in getting some understanding of their role in waste management regulation. An enforcement officer gave me the name of the head of the section to contact. I wrote a letter to him and was put in contact with a senior officer. The officer granted me access to accompany waste enforcement officers on visits to sites, but said that I had to obtain separately the sites' permission for my presence during inspection visits. Fortunately, none of the sites refused me access. The RA did not give me access to all sites which were visited by enforcement officers. But I had access to a good cross - range of sites. Among some of the sites to which I accompanied enforcement officers were also sites which were considered by the RA as "problem" sites, i.e. where enforcement officers had encountered difficulties in enforcing legal regulation. I also had access to a range of different types of sites, such as landfill sites, treatment plants and transfer stations.

After I had accompanied the U.K. waste control officers to a couple of visits I was told by the officer, who had granted me access, that two of the more senior officers were not quite sure about my stay with the RA and wanted to discuss this with me. They were concerned that I might criticize the RA in my research report. I went to a meeting with the two senior officers where I

clarified my research and answered questions about it, saying that my interest was not in judging what the RA did but in understanding how they went about their work. It also appeared that I had failed to express clearly to the other officer during the earlier access negotiations that I wanted to stay with the waste disposal authority for a longer time, i.e. for three months. I agreed during this meeting to show the senior officers a copy of my finished research report.

In order to gain access to the German waste regulation authority I relied on a personal contact. This lead to a meeting with a leader of the German waste regulation authority during which he granted me access. He then put me in contact with the heads of those departments which were relevant for my research.

Similar to the situation in the U.K. waste regulation authority, it turned out that I had only taken the first access hurdle and that access was a continuing issue. The head of the first section with which I spent time wanted to know what it was I was doing and asked me to give a presentation to the department. I tried to show during the presentation my interest in my research topic and waste management in general which seemed to allay concerns. When I went to the second section of the German waste regulation authority, which supervised and licenced waste incineration plants, I had to give another brief explanation of my research to a team meeting. I had also asked permission to attend a meeting on the licensing of

a waste incineration plant which I was granted. During the meeting I took notes. I was later asked by the waste control officer who had chaired the meeting to show to her my notes. Some of this sensitivity to my presence as a researcher probably can be explained by the fact that this was one of the meetings in which operators and the RA had preliminary negotiations over the license application. In some of the literature (Bohne, 1984:352) and particularly in public debates these preliminary meetings have been criticized as involving too close a relationship between the regulated and the RA and for excluding the public and interested pressure groups.

Difficulties in maintaining access came up once again when I joined the group of German waste control officers who were supervising waste incineration plants. The question arose where I could sit in this section of the German RA. I asked to sit on a desk in one of the waste control officer's offices in order to facilitate personal contact with waste control officers and to be able to observe life in the office and to hear conversations. I was told that the only place where I could sit was a completely separate office at the end of the corridor where all I could have done was to read through files. Finally one waste control officer allowed me to sit at a small files table in her office.

To gain access in this project therefore required not just to clear initial hurdles of formal access at the beginning but access was a continuous issue throughout

the field work (see also Buchanan/Boddy/McCalman, 1988:59). Issues such as seating arrangements could be subtle ways of restricting access where for example one section of the RA might not have wanted to support the access decision made by a more senior officer.

3.5.2. What data were obtained?

During the stay at the waste treatment plants I observed the day-to-day working of the staff at the plants who were responsible for the implementation of legal provisions and the work of those staff who assisted in the carrying out of these provisions. I spent the working day with the staff during their day-time working hours. I observed their work, mainly in the laboratory of the U.K. treatment plant and I shared their meal breaks with them. In the German treatment plant I also observed the work of staff working in the office on a legal procedure for assigning waste streams to particular waste plants and the work of staff in the treatment plant which was separate from the chemical laboratory. Hence the research was more focussed on particular issues than a general ethnography of life at the plants or the waste regulation authorities.

In the waste regulation authorities I observed the enforcement of legal provisions in the field in the interaction between the regulated and the regulators and I explored to some extent the licensing of waste management facilities. In the U.K. waste regulation

authority I accompanied enforcement officers on their visits to sites. I also accompanied German waste enforcement officers on visits to sites but in the German RA a larger part of observation than in the U.K. RA was connected to life in the office, involving meetings with operators and meetings of teams of waste control officers.

I did not collect data on the formal legal process connected to the criminal prosecution of what had become officially classified as an offence. Since I was interested in the question of how evaluations of compliance or non-compliance are achieved I was not interested in those aspects of the criminal justice process which come into play once a decision that something constitutes an offence has been made.

3.5.3. How were the data recorded?

I recorded my field observations and the contents of conversations in the field as soon as possible after the events. Most of the time this meant writing field notes at the end of the working day at home. Sometimes I made brief notes during the day which I wrote up fully later in the evening. I seldom took notes openly at the U.K. waste management plant because I felt this would have appeared as threatening and would have interfered with the situation even more than my presence did. At the German waste management plant I recorded more openly notes during the day, particularly in the laboratory,

since I got the impression that after some time this did not impede rapport.

In the RAs when I was in the office I took notes since I was extracting information from files anyway and while doing so I would also record conversations or observations that came up. When I accompanied enforcement officers on visits to sites I created a record of the visit later in the evening.

I feel that this method was adequate for recording data since any issues that appeared unclear when later creating a record I could pick up on and ask questions about during the next day. Being with each of the organizations for about three months meant that I had the possibility of gaining an impression of what the staff were doing over some time. Hence I hope that possible errors or misconceptions in individual records were corrected through gaining an overall picture during quite a long time.

The records of data I created were descriptions of observations and conversations I had witnessed or conducted during the day in connection with what appeared to be relevant for legal compliance. In order to help my memory recall I wrote the field notes in chronological order for a day. After the writing-up of the data I read through the notes again and tried to find categories into which various pieces of data could be aggregated. If these categories seemed to be relevant and adequate for

describing data I used these as headings for writing-up notes for subsequent days. For example, I would write-up notes under headings, such as "agreements negotiated in the field between waste management plants and waste control officers" and then note several examples under this category.

How were the data analyzed?

I did not use any particularly formalized procedure for the analysis of the data but thinking about the data and trying to make sense of them was a continuous process (see: Glaser/Strauß, 1967:43; Bryman, 1988:68). This started when I was in the field and continued during further organisation of the data around themes and categories once I left the field and wrote-up data for the research report. In the next section I will discuss my role as a researcher in the field in more detail. How did my research role influence the data which I collected?

3.6. Negotiating a research role at the waste management plants and the waste regulation authorities

3.6.1. Validity of data

It has been argued that the interview and the participant observation situation are social encounters where the researcher herself contributes to the creation of a social setting which becomes later recorded as research data (Denicolo, 1993; Dalton, 1964:74). Hence,

not only did I "contaminate" research data through my presence but I contributed to generating situations which otherwise might not have occurred.

In my opinion, however, there were limits to the extent to which I affected the researched setting. For example, at the U.K. waste treatment plant the laboratory technician explained to me during my first days at the plant how they were handling wastes. He showed me how they would test incoming waste, for example for compatibility with loads already in the plant. After some time I realized, however, that this was not necessarily how the waste was handled in practice. Sometimes testing procedures were not as elaborate as initially explained but shortened. Hence, it seemed that the presentational data which I encountered at the beginning of my time in the field gave way to behaviour of the staff which was closer to their "normal" behaviour. After some time my presence in the laboratory seemed to have less of an impact on behaviour of the staff.

3.6.2. Interaction instead of "fly on the wall"

Sometimes observation is also described as the "fly on the wall" approach to the collection of data. During my research, however, I found that this would have been an impossible approach for me to take. I was not a "fly on the wall" and being in the particular research setting interaction was needed in order to create a research role for myself (see also: Bulmer, 1988:151;

Hammersley/Atkinson, 1983:14). The staff whose work I observed were sometimes interested and sometimes suspicious of the contents and purpose of my research. For example, would I relate my observations to the management? The only way to deal with these concerns was to talk to the staff, to interact. To gain their trust in the field was probably dependent on them having an opportunity to get to know me as a person and to ask me questions.

Furthermore spending a work day together with the staff, who had to deal sometimes with intense pressures of work, meant that I could not be just "part of the furniture" in the corner of the laboratory. Instead I was a conversation partner during times of boredom at work or be a person still separate enough from the setting to be told grievances about the work, colleagues and management.

Moreover, there was a further aspect of the field setting that prevented me from being a "fly on the wall". I found that some of the situations at the plants and waste regulation authorities made it difficult for me to feel completely detached from what was happening in the setting. Some conditions led me into an emotional involvement in the research setting. Some of the work of the staff at the plants and waste control officers was dangerous. For example, during one site visit a German waste control officer detected waste in a container. The officer started to inspect drums stored in the container.

Some of the drums, according to their labels, contained solvents. Some drums were unlabelled. In order to inspect the drums at the rear end of the container the officer had to walk into the container. An employee from the site who showed the officer around stood outside in front of the opening of the container. He was smoking while watching the officer. This put the enforcement officer in the container at considerable risk of a fire accident through the ignition of solvent fumes. The enforcement officer got very angry about this. Though this was an extreme situation the example illustrates that I witnessed incidents and situations at sites which led to an emotional not just cognitive involvement with the setting. Emotional involvement was on the one hand a way to share some of the experiences and feelings of people in the research setting and hence could facilitate understanding of and insight in the data (see also Gouldner, 1954:259). I was concerned, however, that overinvolvement could lead to the loss of critical distance and partly induce a judgemental rather than neutral or inquiring state of mind (see also Jarvie, referred to in: Clarke, 1975:105). Involvement in the research setting became also relevant in another way. The research project was the first time I had closer contact with the waste management industry and waste regulation authorities. This situation required to negotiate a role as stranger in the field.

3.6.3. Negotiating the role of stranger in the field

As pointed out above in the section on interviews in the field, getting explanations about what was happening, particularly at the plants at the beginning, was quite important. It turned out at the U.K. waste treatment plant that a young laboratory technician became what has been described in the research methods literature as an informant (see for example: Tremblay, 1982:98). I got to know him through being most of the time in the chemical laboratory. At the beginning he explained to me some of the procedures for handling waste, some technical aspects of waste treatment and the pumps and pipes at the plant. He also helped to introduce me into the setting.

For example, during the first days I dreaded going during lunchtime into the small messroom where the staff from the plant would be having lunch. This was an all-male "Sun" reading environment. What would I say when I entered the room? "Hi, my name is Bettina, I am a postgraduate student at Warwick University, how are you?" This probably was unlikely to be a good opening! Should I just slip in and mutter "hello"? I was quite relieved when one morning the laboratory technician announced to me that he was going for his tea break to the messroom and asked if I would like to come with him. Accompanying him to the messroom made it much easier for me to enter this setting.

I felt that being a woman, my younger age and being German in the setting of the U.K. waste treatment plant might have helped rather than hindered my research role. It meant on the one hand that there were limits to my "fading" into the social setting. On the other hand it provided a justification for asking lots, and what probably sometimes appeared as silly, questions. Being very obviously a stranger in the field it was easier to remain strange, to keep some distance from the setting and retain a researcher role rather than become too well integrated. Also my gender and younger age might have contributed to being perceived as less threatening in the field. I was not an "important", established male academic. Some staff who had forgotten or who had never been clearly told what I was doing at the plant assumed for example that I was a chemistry undergraduate on a sandwich course.

Values and perceptions

I started this research project with a critical perception of waste handling which did not conform to high environmental standards. I probably would have supported a notion of "strict or strong" regulatory law to control activities that have environmental impacts. While I am still concerned about these issues my ideas on how to achieve environmental standards changed during the course of the research. Watching for example the chemists carry out their job I gained an appreciation

of the pressures under which waste is being handled. A more critical perception, if any, would have to be directed at the organizational and economic framework in which waste handling occurs. For example, I suspect that the U.K. treatment plant was trying to survive in a competitive environment during a recession. In Germany there is the possibility that waste control officers can be prosecuted under criminal environmental law as the main offender or accessory to an environmental crime. One potential use of this provision is to encourage RAs to bring more criminal prosecutions and discourage waste control officers tolerating situations at sites that effectively constitute offences (Schönke-Schröder, 1988, Vorbem. § 324 ff., Rz. 38,39,40,41).

Before I did the field work with the German RA I would have supported these criminal law provisions. During my time in the German RA, however, I changed my view. The individual enforcement officer is the wrong target for trying to influence prosecution behaviour. The threat of criminal prosecution as accessory to environmental offences is rather draconian. Instead it might be more relevant to explore what positive incentives does the organization provide for taking out prosecutions, what support systems are there from layers higher up in the organizational hierarchy for prosecutions? Thus, the long involvement with the organizations which participated in this research changed some of my perceptions in a way that an encounter during

an interview would probably not have done. Hence, the field work was a two way process where not only I collected data about the organizations' activities but involvement in the organizations' activities also changed some of my perceptions.

3.7. Conclusion

In this chapter I described and provided reasons for the way I conducted this research project. The research question "what is legal compliance in practice?" was informed through initial observations in the field. Thus, this project is based on a research question which is "grounded" in empirical data. Also, the literature review showed that a project that would look at the social construction of notions of compliance could be a contribution to existing understandings of compliance. Since I was interested in small-scale social processes in practice any theory for this project had to be "grounded" in the empirical data rather than applied from grand social theory. This conceptual approach towards the research provides the framework for all of the subsequent presentation and discussion of data.

Part II: CONTEXTS OF COMPLIANCE AND STRATEGIES FOR MANAGING COMPLIANCE

Outline of Part II

Compliance and non-compliance do not exist in the abstract. They occur in relation to standards. In my view, the literature which has worked with a notion of 'formal compliance' has neglected to probe the question of what standards for compliance are in practice and how they are achieved. In part II, I will explore how the contexts, such as information, technology and commercial aims, in which compliance occurs, have an impact on what is understood as standards for compliance and how standards for compliance can be manipulated in practice. I will now report empirical data on these issues which I collected during field work with the waste regulation authorities and the waste management plants.

CHAPTER 4: COMMERCIAL CONTEXTS AND LEGAL REQUIREMENTS

4.1. Introduction

In this chapter I will explore how the commercial context in which waste was handled at the waste management plants affected the way legal requirements were implemented in practice. Would commercial aims work against the implementation of site licence provisions? How did the commercial context influence what was understood as legal requirements in practice? In the

first section of the chapter I will deal with the waste testing procedures at the U.K. and German waste management plants. In the second section of the chapter, I will discuss the load rejection procedure and in the third section ,I will refer to the relationship between some other procedures and their commercial contexts. Finally,I will look at service relationships between different actors in the waste management chain and how they affected the implementation of legal provisions in practice.

4.2. Procedures

In the literature, commercial aims of regulated companies are often portrayed as a factor working against formal compliance with 'legal requirements' (Pearce/Tombs, 1990:425; Braithwaite, 1984:292; Clinard/Yeager, 1980:214; 274; Conklin, 1977:41; Geis, 1967:147). In this chapter,I will show that the relationship between commercial issues and legal requirements is more complex. How do commercial values and 'legal requirements' interrelate in practice? Can procedures for handling waste establish standards, through which diverse requirements are accommodated?

The working plan

According to the senior chemist at the U.K. waste treatment plant, when procedures were laid down, they were set up in such a way that they could take into account commercial aims. Most of the procedures that were

to operate at the treatment plant were to be compiled in a working plan that was to be attached to the site licence. According to the chemist, the previous site management had never formally compiled a proper working plan and the RA continually asked the waste management company for it. The senior chemist told me that finally the RA threatened that they would write the working plan. In the chemist's view , , this would have been an incentive for the plant to write its own plan because the RA would not take into account commercial issues when setting up procedures. Hence, procedures at the U.K. waste treatment plant were not developed in order just to translate legal requirements from the site licence into practical behaviour at the plant but they were also supposed to take into account other aims of the facility, for example, that the operations would be commercially viable and could be carried out at competitive prices.

It is important to be aware of the procedures at the U.K. waste treatment plant in order to understand how the waste was handled. These procedures involved the pre - testing of loads, sample testing, load rejection, the section 17 note procedure, and some procedures under the health and safety at work legislation, such as the "permit to work" procedure. Some procedures were directly imposed through the site licence. Other procedures, according to the foreman, were set up by the plant also to translate site licence provisions into daily work routines. At the German waste treatment plant there were

less clearly defined and explicit procedures for handling waste. In contrast to the U.K. plant, there was no manual which listed in written form all the procedures that were supposed to operate at the plant. The procedures for the testing and the rejection of incoming waste loads were particularly important for the implementation of site licence requirements, both in the U.K. and Germany. Therefore I will focus on these two procedures in the following section.

4.2.1 The procedure for testing incoming waste loads

According to both the German and the U.K. site licences, waste loads brought into the plant should be tested on arrival by checking conformity with waste acceptance criteria. The site licence of the U.K. waste treatment plant required:

"Condition 2: The types and quantities of waste accepted daily at the facility shall not exceed those specified in Schedule B attached to this licence.

Condition 3: Notwithstanding Schedule B, wastes accepted at the facility shall be only those which by previous sampling and analysis from each source have been shown to be capable of treatment to the satisfaction of the WDA. Results of these tests shall be made available to the WDA on request".

Condition 20: A laboratory shall be provided at the facility and wastes shall be checked upon arrival at the facility to ensure that they are capable of treatment and compatible with existing materials in store. A record of the results of these checks shall be kept and made available to a representative of the WDA on request".

The testing of incoming waste loads should have ensured that those which were not allowed under the site licence

were screened out. The fact that testing was important in order to achieve this, is illustrated by the following account. According to the chemists at the U.K. waste treatment plant, some hauliers tried 'to slip in things'. The laboratory technician told me that a company had tried to bring in food wastes which could not be taken according to the site licence. He explained:

'They come in at around lunch time when there is a shift change and they will say: 'but the chemist from the earlier shift approved it'.

Situations such as these were the theoretical justification for having procedures which were aimed at only allowing wastes into the plant in accordance with the site licence.

Commercial contexts and the operation of the testing of loads procedure in practice

Customer relations and "turn around time"

When I was at the U.K. treatment plant I observed that incoming loads were sometimes only tested through employees using their sense of smell and through a visual examination. Sometimes, loads were not tested at all. Occasionally waste testing procedures were thus considerably simplified or not carried out at all. In my view, one of the reasons for this was the commercial context in which waste was handled at the waste management plants. Waste management is part of a service sector industry. Building and maintaining good relationships with customers is an important aspect of

the business activity. The foreman of the U.K. waste treatment plant told me that tankers should have a reasonable "turn around" time at the plant. Thus, testing procedures should not take too long. According to the foreman, during the time that tankers had to wait idly on the yard, they would not earn money for the haulier. In order to be a popular waste treatment site for hauliers, a tanker should not spend a long time on the yard while being tested.

Also, according to the staff at the German waste treatment plant, the "turn around time" of vehicles carrying solid waste was to be kept low. Skips arriving with solid waste loads were inspected visually. Usually, only if it was suspected that problematic substances might be in the load, for example a high concentration of chlorinated solvents, would samples be taken and submitted to the laboratory for detailed analysis.

According to the standard testing procedure for liquid waste loads coming into the German treatment plant, the amount of chlorine should be measured in waste loads. The testing of the chlorine took about half an hour. Waste loads were accepted into the plant before the results for this test had been obtained. The test results were later entered on the analysis forms, after the load had been discharged into the plant. The German laboratory technicians explained to me that the tanker should not

wait for a long time on the yard while the result of the tests were being obtained.

Also, according to the standard testing forms used in the German laboratory a chemical analysis of incoming liquid waste loads should be carried out before and after treatment. "After treatment" means after the chemical treatment steps that are carried out in the treatment plant were simulated in the laboratory on a small scale. As in the U.K. waste treatment plant these "after treatment" tests were not always carried out. There are further ways in which testing procedures could be simplified. This could be the use of quick testing equipment and making exceptions for some waste loads from the testing procedures. Let us look at quick testing equipment first.

Using quick testing equipment

According to the site chemists at the U.K. plant, in order to save time while the tanker was waiting on the yard for test results, they used quick tests. As the name indicates, these Merck dip kit tests merely required - dipping test strips into filtered samples of waste loads. The test result could be read from the test strip according to its colouring. In the view of the chemists, these Merck dip kit tests were partly inaccurate but their main advantage was that they were quick to use.

The degree to which quick testing was considered important is illustrated by the fact that even when a new

laboratory was installed at the U.K. waste treatment plant the Merck dip kit tests were still used for testing incoming waste loads. The new laboratory had also improved analysis facilities. It provided the possibility of carrying out more accurate tests on analysis machines such as the gas chromatograph or the atomic absorption unit. According to the chemists, tests using those analysis machines for incoming waste loads would take too long. The more elaborate analysis equipment was only used for the initial assessment of loads. Before taking in a waste stream for treatment the plant would initially consider if a customer's waste stream could in fact be treated at the plant.

Similarly, at the German waste management plant, quick or limited testing was preferred for some waste loads. In a memo the supervisor of the German waste treatment plant had proposed to the plant management that for the analysis of known waste loads, efforts could be reduced by up to 50% by only applying quick chemical testing, such as Merck dip kit tests. The supervisor argued that this would have the beneficial effect that waste loads which had never been handled before could be processed quicker through the more elaborate tests in the chemical laboratory. Analysis facilities would not be hampered by routine testing. Now, let us look at another way of simplifying testing procedures. This consisted of making exceptions for some waste loads with regard to the testing procedures.

Exceptions to the testing of incoming waste loads: small waste loads

The staff on the yard of the German waste management plant allowed in practice for some exceptions to the general testing of incoming waste loads. The smaller barrels containing liquid wastes which were to be stored in the tanks in order, finally, to be passed on to a waste incineration plant, were not tested by the chemical laboratory. Only samples from the tankers with large amounts of liquid waste were analysed by the chemical laboratory. The idea behind this was that smaller waste loads would not affect the waste mixture very much since they were diluted by being mixed with the rest of the fluids in the tanks.

At the German waste management plant, regular testing of incoming liquid waste loads for the treatment plant was carried out. It seemed that the main reason for this was that the laboratory was separate from the treatment plant. The staff in the German laboratory did not share the treatment plant's view on reduced testing and thus carried out more extensive tests.

The staff at the plants would not just give commercial pressures as reasons for simplified testing procedures but also provided other justifications for rationalizing their ways of handling waste. In the following section, I want to describe some of those

strategies. It is important to mention these strategies in order to explain the shortened testing procedures.

Knowledge of wastes from experience as a basis to simplify testing requirements

A frequently made point by staff at the German and U.K. waste treatment plants was that testing procedures could be simplified because the staff would know from experience what the outcome of the tests would be. For example, in relation to chlorine testing at the German waste treatment plant mentioned above, the laboratory technician argued that the chlorine parameter was not important since the treatment plant was able to treat substances in the incoming waste loads down to the levels permitted in the discharge licence. Also, according to a German laboratory technician, some of her colleagues had been working in the lab for some time and thus knew the wastes from experience. They would know the results without the "after treatment" tests, which were mentioned above, and if the waste could be treated by the plant or not.

Reliance on experience was used as an explanation both at the German and the U.K. waste treatment plants for behaviour which deviated from procedures. The observance of bureaucratic rules could be sometimes dispensed with because experience would guide employees towards the appropriate action needed. One of the

employees who worked on the yard of the U.K. treatment plant said:

'Some of the drivers have been so long in the business that they know how to do things and where to discharge. They know their waste loads from the way they smell. They will know if anything is wrong or different with the load and then tell the lab'.

One of the chemists at the U.K. treatment plant told me that they would use their experience to test some incoming waste samples. The smell and the appearance of a waste sample from a regular load could indicate if it was different from what it usually appeared. According to the chemists, experience was an important aspect of doing their job. A technician at a landfill site, which was operated by the same company that ran the waste treatment plant, said that he sometimes consulted a chemist when deciding if to take contaminated soil into the site. But he stressed that:

'it is experience that matters when making these decisions'.

Also, experience could replace more abstract and organized ways of understanding the technical operations at the plant. There were drawings of the complicated pipework at the U.K. waste treatment plant that should have told the chemists where different lines between tanks were located. According to the chemists, these drawings were useless. They told me that they therefore had to learn about the operations by 'experience'.

At the German plant, employees in the office, those on the yard and the lab staff stressed that experience

mattered when handling wastes. Since wastes are complex, diverse mixtures, knowledge about wastes is difficult to obtain from books and can only be gained through experience in handling wastes. For example, according to the staff at the waste treatment plant, the oil pre-treatment process had to be carried out by those with prior experience of this work. There are no clear guidelines that would determine how much of the chemical reagent has to be used.

Thus, in order to understand the working practices of the staff at the waste treatment plants, it is important to have some idea of what might be termed their cultural knowledge of the setting they were working in. By cultural knowledge of the plant, I mean being familiar with the plant, understanding how it operates and attitudes towards rules and procedures for its operation that arise from the staff's experience and everyday knowledge of working there. Cultural knowledge of the waste treatment plant and not just the observance of procedures were important in the daily handling of waste. Thus, experience could partly explain deviance from procedures. This shows that a rule - based concept of formal compliance or non-compliance is too reductionist to capture the complexities of the working practices on the sites. Deviation from testing procedures might be explained as adherence to alternative social orders, such as those incorporated in working practices. These are constituted of cultural understandings such as the

experience of how to deal with incoming waste loads. Apart from these cultural factors that are relevant to understanding how procedures were handled in practice, it is also important to note that there were limits to commercial pressures with regard to the testing of loads. Some of these were limits that did not arise from the supervision of the plant's activities by the RA but were rooted in other aims pursued by the plants. The plants want to make more money so they spend less time testing the waste but nevertheless there are limits to their financial motivations.

Limits to the influence of financial concerns

The previous site manager of the U.K. waste treatment site had written a memo to the chemists about the testing of incoming waste loads. According to this, the site manager had noted that the "turn around time", i.e. the time a tanker spent at the waste treatment plant, was less than 15 minutes. The manager pointed out that this could hardly be enough time to allow for an appropriate testing of the sample since it would take nearly 20 minutes just to discharge a 20,000 gallon tanker. The memo asked the chemists to observe proper testing procedures in the future.

At the German waste treatment plant the testing of incoming waste loads was important for the staff because it was necessary for the calculation of the price charged for the treatment. The price for the treatment of the

waste load in question was to some extent based on its particular composition. For example, it was more expensive to treat a waste load which contained problematic substances like cyanide or a high percentage of nitrates. As a result of this, it was in the German plant's own commercial interests to obtain sufficient information about waste loads through the testing of them.

Thus, testing requirements were not dismissed at either the German or the U.K. plant, but were considered to some extent important. There were limits to the impact that commercial considerations had on the actual testing procedure used. These limits could be based on other commercial requirements such as the need to gain information about loads for the application of the pricing system at the German plant. Hence, there were no unified commercial aims, which, by definition, would mitigate against the elaborate testing of incoming waste loads. Instead, different commercial requirements could call for different behaviour in relation to the testing of incoming waste loads. Compliance with the testing procedures at the German waste management plant might not be the result of the normative appeal of the legal provisions but of the importance of the commercial aim of operating a particular pricing system. Did these financial considerations also influence other procedures at the plant? Let us look at the procedure for the rejection of waste loads.

4.2.2. Commercial contexts and the procedure for rejecting waste loads

Introduction

The site licences for the German and the U.K. waste treatment plants spelled out what kind of wastes could be taken into those sites. Also, the discharge consent set limits for the discharge of certain substances via the plant effluent into the public sewer. When deciding if a waste load could be taken into the plant, these legal constraints resulting from the site licence and the discharge consent had to be taken into account. Furthermore, the U.K. treatment plant had drawn up a written load rejection procedure. It stated that waste loads arriving at the plant "which do not conform with the description provided or which are otherwise unacceptable" should be rejected. How was this load rejection procedure handled in practice?

Load rejection as the last resort

While I was at the U.K. and the German waste treatment plants, the economic recession resulted in the reduction of the amount of waste coming in. I could see from the booking-in book for previous years that the amount of waste coming into the U.K. plant was substantially reduced in comparison to previous years. Some waste producers had gone out of business and the reduced output of some producers was reflected in the smaller amount of waste remaining to be treated. Both the

German and the U.K. treatment plants were working below their capacity. Load rejection was only sparingly exercised both at the U.K. and the German waste management plants. According to an employee at the German plant, who had organized the booking-in of waste loads and who was familiar with information about rejected loads, very few loads would be rejected. Also, while I was in the chemical laboratory, at the German waste management plant, during the initial assessment for deciding if a waste stream could be taken into the plant, I observed there were seldom any rejections. More loads seemed to be rejected at the U.K. waste management plant than at the German plant. This might also be explained by the fact that the U.K. plant would take in some "first loads". This meant that it would sometimes accept bookings for waste loads for which it had not in fact assessed a sample of the waste stream in order to see if it could in fact take the waste. The likelihood that a waste stream was not suitable for the plant, and that it had to be rejected, was greater for the type of loads which were not known previously to the plant. Overall, in both the German and the U.K. plants, there seemed to be an emphasis on taking loads into the plants and not rejecting them. According to the staff at the U.K. waste treatment plant, maintaining good relations with customers was a commercial pressure that had an important influence on how the load rejection procedure was handled in practice. In what ways could such commercial pressures affect the handling of the load rejection procedure?

Regular customers

The staff at the U.K. treatment plant considered that the rejection of waste loads could potentially jeopardize relationships with their customers. According to the senior chemist, it was particularly difficult to reject waste loads from regular customers. Because they brought in waste loads frequently, regular customers were commercially important for the plant. To annoy customers by rejecting a load could pose the threat that the customer would take his/her business to a different treatment plant. While I was in the laboratory of the U.K. plant, I sometimes overheard telephone conversations when customers were informed by the chemist that a load had been rejected, and the customers occasionally seemed to be angry about this.

'Finding a home' for rejected waste loads

When waste loads had to be rejected, the staff at the U.K. treatment plant would attempt to 'find a home' for a rejected load, rather than just send the tanker back to the waste producer. This was also an attempt to maintain good customer relations in cases where loads had to be rejected. In what other ways did the chemists try to take commercial considerations into account when making decisions about the rejection of waste loads?

Taking in wastes which are only 'slightly above' the site licence limits

Another way to accommodate customer satisfaction in the handling of the load rejection procedure in practice was to allow waste loads into the site which were only 'slightly above' the site licence limits. One day a waste producer visited the U.K. treatment plant on a "duty of care" visit. These visits could help to fulfil new legal duties placed on waste producers to dispose of their wastes in accordance with the requirements of section 34 (1) EPA 1990. The visitors were also shown the lab and the chemist explained:

'So, we test the samples in here to see if they can be taken in within the site licence. We see if there is some possibility of taking wastes in when they are just slightly above the site licence'.

This statement by the chemist illustrates that on the one hand he wanted to show to the waste producer that legal regulations like site licence requirements would be adhered to. But, on the other hand, the chemist also indicated that waste producers would be accommodated in the sense that their waste loads would not be rejected if they were just 'slightly' above the site licence. There was no objective definition of what 'slightly' above the site licence entailed but this was left up to the individual and subjective judgement of the chemists.

Sometimes loads were just above the site licence limits in a way that was considered sufficiently insignificant by the staff and which would not in their

view warrant a load rejection. Some waste loads had on top of them a layer of 'tramp oil' which could not be treated at the plant. The chemist would ask the tanker driver to discharge the load in such a way that the oil layer would remain in the tanker. The chemist explained to me:

'You can't turn away a tanker for that [the tramp oil on top]'.
'

Also one of the technicians from a landfill site, which was also operated by the U.K. waste management company, said:

'If it [the waste load] is borderline I might admit it'.
'

One day a customer asked the technician from the landfill site if the site could take an acid with a ph-value below six. The technician told the customer that the site was not licensed for such acids. The technician added that he would get in touch with the RA to see if he could get permission to take in that acid, since it was only a 'one-off' load. A further way to broaden criteria for the rejection of waste loads in practice was to develop alternative standards.

**Taking in waste loads which do not conform to the description provided but can be treated by the plant:
alternative standards**

In some cases alternative standards for rejecting waste loads were developed. According to the written version of the load rejection procedure at the U.K. treatment plant, waste loads "which do not conform to the

description provided or are otherwise unacceptable" should be rejected. Wastes which did not conform to their description but which could be treated by the plant and could be taken in under the requirements of the site licence were, however, usually taken.

This was also the case at the German waste treatment plant. Its site licence required that loads should conform to the description of the waste stream previously submitted to the plant. Conformity between the arriving load and the previous description was, however, usually not checked by the chemists or the staff on the yard. It was only tested if the plant could in fact accommodate the particular load arriving.

Sometimes at both the German and the U.K. plants, even loads which the plants were not equipped to manage, would be taken in. The sheet with the waste acceptance criteria for the German waste treatment plant specified that only waste loads that could be treated should be taken into the treatment plant. On one occasion, however, an acid containing cyanide was accepted into the plant, although according to the staff in the treatment plant it was not quite clear how it could be treated. In fact it proved difficult to treat and some time and effort was spent on dealing with this case.

Flexible criteria for load rejection: 'too oily waste loads'

Under its site licence, the U.K. treatment plant was allowed to take in waste loads described as 'fuel oil and greases'. According to the site licence, however, the plant was only allowed to take in wastes which it could treat with its technology. The U.K. plant did not have an oil trap to separate oil out before the treatment process. There was only an oil trap for the treated effluent that was to go to the sewer, so that before discharge to the sewer some oil could be held back. Too much oil in a waste load could cover the cloth filter presses with an oily film and thus make them inoperative. Therefore only loads that did not contain "too much oil" could be accepted. It was up to the chemists to define on the basis of their knowledge of what the plant technology could cope with what constituted "too much oil" in a waste load.

When waste loads arrived at the plant their oil contents was not determined through the taking of a sample in the laboratory. The oil content was usually estimated through a visual examination of the sample. There did not seem to be a clear line between those loads that could be taken into the plant and those which could not on the basis of the oil content. Thus, the chemists at the U.K. waste treatment plant seemed to have considerable discretion in deciding about the rejection of loads. One day one of the chemists rejected a load of

drum washings. He told me that there were too many solvents in the load. He added that the other chemist might have taken the load in. Also, one morning a waste load was delivered to the U.K. plant. The lab technician said:

'This might be another reject'.

In the end the load was not rejected but the technician told the driver of the tanker:

'Next time we will reject it'.

Similarly, in the diary of the U.K. landfill site, quite a few entries stated that waste loads were taken in which would be rejected next time. Hence the criteria in practice for rejecting loads were handled in a flexible and partly inconsistent way. They allowed for discretion in taking commercial considerations into account when deciding if waste loads should be taken or not.

Gaining maximum commercial advantage from not rejecting loads

If difficult loads, which were 'borderline', were not rejected but taken, then the U.K. waste treatment plant could ask a high disposal price for such a load. Hence, there could be a commercial incentive to not reject loads which might be difficult to treat. One evening the senior chemist and myself were in the laboratory of the U.K. treatment plant. On a table waste samples were stored which the sales staff wanted to bring into the plant. These samples were to be tested for treatability. The chemist picked up two glass jars

containing waste samples. He smelled the samples and said:

'This is crap. I am going to reject those'.

The chemist then walked to the site manager's office.

About ten minutes later he came back and said:

'We are going to take them. If Rapid Haulage wants to bring in crap then they have to pay for it. If we have handling difficulties with those then they will have to pay for it. So it is not gonna be £ 18 per ton put £ 35 per ton'.

This shows that in practice there did not seem to be a clear-cut dividing line between waste loads which should be accepted and those which should be rejected. It also illustrates that the U.K. plant tried to gain the maximum commercial return from 'borderline' loads. Also at the German waste management plant, efforts were made not to reject waste loads.

First and second analyses at the German waste management plant

If a first analysis of the waste showed it could not be taken according to the parameters of a final disposer then the office would sometimes try to obtain a second analysis. In case where the waste stream had quite a heterogeneous composition, a second analysis of a different sample of the same waste stream might show conformity with a final disposer's acceptance parameters. Thus the waste would be taken.

Conclusion

Procedures for the handling of waste could help to translate site licence requirements into practice in a flexible way. Procedures could help to integrate commercial aims with other aims of the plant, such as the implementation of legal requirements. Procedures in practice provided a considerable amount of flexibility which allowed commercial considerations to be taken into account. For example, the load rejection procedure as operated in practice included elements of customer consideration. The commercial context had an impact on the handling of procedures in the areas of the testing and the rejection of waste loads both at the German and the U.K. plants. In the perception of the staff at the German and U.K. plants, commercial considerations were an integral concern in their jobs. Not in all cases, however, were financial concerns, a restraint on the implementation of site licence requirements. In some situations financial concerns could promote the implementation of site licence requirements. For example compliance with testing procedures in the German waste management plant was also important for the operation of the pricing system. Thus, compliance in practice with legal requirements might in effect signify compliance with commercial aims.

4.3. Commercial contexts and other legal requirements

In the previous sections I have looked at the question how of how commercial aims can influence the handling of procedures for the testing and rejection of waste loads at the waste treatment plants. Are there other situations at the waste management plants where commercial aims can be integrated into the implementation of legal requirements?

The booking-in procedure

At the U.K. waste treatment plant, a booking-in procedure was meant to operate. This procedure partly implemented requirements from the site licence (conditions 2 and 4). There had been confusion at the U.K. waste treatment plant about who should take bookings of incoming waste loads. Finally, in a memo, the site manger spelled out in a memo the responsibilities for different members of staff. The manager referred to commercial not legal reasons for the need to observe the booking-in procedure. He argued that if the booking-in procedure was not observed, then waste loads might have to be turned away. Thus, for the staff at the U.K. plant, accommodating commercial aims was to be an important aspect of the booking-in procedure.

Requirements for keeping records

According to the chemists, record keeping requirements which the RA had asked them to implement,

could also be used for their own purposes, such as a more efficient management of the site. For load rejections, a form with some details about reasons for this decision had to be filled out. According to the site chemist, one copy of this was forwarded to the site manager. This had the positive effect that if the site manager had to deal with customer inquiries about load rejections, he was informed about the reasons for the load rejection. According to one of the chemists, before the forms were used, the site manager sometimes did not know a great deal about particular load rejections. This caused problems when he had to deal with customers. Also, according to the staff, requests by the RA that the plant should update more frequently information provided to them, could be in the commercial interests of the plant. This will be explained in the following section.

Updating information provided by the RA

The RA had required the U.K. waste treatment plant to provide more frequent updates of the analyses of waste streams taken in by the waste treatment plant. According to the chemists, this information would be stored on a new computer system. This would show the chemists how waste streams changed over a certain period of time. Prices for the waste treatment could thus be reviewed. Since prices were based - inter alia - on the amount of problematic substances in the waste stream such as heavy metals, more frequent updates on the composition of waste streams provided an opportunity for the plant to detect

factors such as an increase in contaminants that would justify a higher price. Hence, the requirement from the RA to provide more information could help the plant to avoid charging outdated prices and thus keep competitive. Also some waste streams could change so much that they should be classified as a new waste stream and be assigned a new number in the plant's classification system. A further example of a regulatory requirement that could work to the advantage of a regulated company were the provisions for the new chemical laboratory.

Increased standards for waste testing facilities

Under site licence provisions, the U.K. waste treatment plant was required to install adequate laboratory facilities. This meant that eventually the plant had to upgrade its laboratory facilities. While I was at the plant a new and improved laboratory was set up. This was perceived by the chemists as a step which worked in the favour of the plant, though according to them the new laboratory did cost a considerable amount of money. The chemist explained to me that the improved analysis equipment in the laboratory would allow testing for lower levels of substances in waste streams. This would be a commercial advantage for the plant because a broader range of wastes and more complex, and hence more profitable, wastes could then be taken in. For example, they would be able to analyze pesticides. Currently the plant was not licensed for pesticides. If they could analyze them, however, they could ask the RA to amend the

licence accordingly. According to the chemist, the RA had thus far argued that they could not make a decision on the request from the plant to take in more difficult wastes. Unless the plant was able to tell them precisely what was in those waste loads the RA would not decide.

These examples show that commercial aims might not be necessarily in conflict with legal requirements but that the regulated in some situations are able to comply with both legal and commercial requirements. In some situations it might be commercial aims that provide an incentive to fulfil legal requirements rather than legal requirements just having normative appeal. For example, the senior chemist at the U.K. waste treatment plant told me that the filter cake which they produced at the end of the treatment process was covered by the "special waste" definition under para. 2 (1) of the Control of Pollution (Special Waste) Regulations 1980, SI 1980 No. 1709. The RA had not asked the waste treatment plant to consign this filter cake which went to a landfill site on a section 17 note although the plant did not implement the section 17 note procedure for the filter cake.

In the end the plant planned to consign the filter cake on section 17 notes. The incentive for this seemed to have been the fact that the filter cake was to be brought to a new landfill site which was cheaper. This new site required the treatment plant to provide an analysis of the filter cake. Hence, it seemed to be the commercial incentive to bring the filter cake to a

cheaper landfill site, that finally made the treatment plant analyze it, as required under the section 17 procedure. Thus incentives for implementing legal requirements were not abstract and preordained but could arise in particular circumstances in the field and be based on commercial aims.

Furthermore what would be considered as "normative" in practice could also depend on how conflicts between different legal provisions were resolved. For example, at the U.K. treatment plant, it was discussed who should take samples from the waste tankers, when waste loads were checked upon arrival. According to the chemists, one could argue on the one hand that staff from the waste treatment plant should take the sample because this would exclude the possibility that the tanker driver would tamper at the plant with it in order for it to be approved. On the other hand, considerations for the safety of the people at the yard, could be better guaranteed if the tanker driver took the sample. He would usually know his vehicle and the kind of load he was carrying and therefore would be best suited to take appropriate precaution. At the U.K. plant it was usually the tanker driver himself who took the sample. The chemists preferred this. As one chemist put it:

'It is safer if the driver takes the sample because most of the time the driver will have loaded the tanker as well. We had a case where the yard man took a sample from a tanker, the inlet valve of which had not been closed. The tanker travelled under vacuum so during the trip nothing happened because the tanker kept

sucking in air. When the tanker arrived here and the yard man opened the outlet valve to take a sample a whole load came gushing out. Fortunately it was a neutral sludge and not an acid'.

Although in some situations as in the two examples illustrated above, procedures at the U.K. plant allowed both legal and commercial considerations to be taken into account, this was not always the case. In some situations commercial aims could be in conflict with legal requirements.

Limits to the integration of commercial issues into procedures for the handling of wastes

Mixing wastes

Under the German "TA Sonderabfall" regulations there is a general prohibition on the mixing of wastes, with some exceptions (para. 4.2.). The prohibition on the mixing of wastes was not always implemented in practice at the German waste management plant. According to the supervisor there, sometimes waste acids would be mixed with alkalines, in order to treat the alkalines. This was not covered by the exceptions in the "TA Sonderabfall". Hence, in this situation no accommodation of commercial aims with legal requirements was achieved but there was conflict between actual practice and formal legal requirements. There was a further case in which wastes would be mixed despite the prohibition on the mixing of wastes. According to the supervisor of the German treatment plant, some acids contained oil. Such a load would be cheaper to treat if more oil could be added to

it. Then it could be processed through the oil pre-treatment plant rather than through the chemical treatment plant. A cheaper treatment price would make it more likely that the plant would get the job. Thus, the mixing of wastes could assist in the strategic management of the composition of waste loads in order to realize commercial aims of the treatment plant. Also, commercial pressures, according to a German waste control officer, could induce operators to start their operations before they were allowed officially to do so. This will be explained in the next section.

Commercial issues and the implementation of planning conditions in Germany

The waste control officer explained to me that operators were not allowed to operate their process before he had come to visit the site to check if the planning conditions in the waste management licence had been fulfilled. Only after this visit and his formal approval ("Bauendbesichtigung"), was the operator authorized to start the waste management process. The waste control officer explained to me that quite often when he went to sites for these formal visits the operator had already started to operate the process in order to start earning returns on his investment. Hence, this example illustrates that in some situations commercial concerns would not be integrated into behaviour addressed at fulfilling formal legal

requirements but commercial concerns could override formal legal rules.

4.4. Service relationships and legal requirements

Introduction

In the following section I will deal with the question of how service relationships between plants and waste producers and plants and waste hauliers might influence what is understood as legal requirements and compliance with them in practice. In the section on the load rejection procedure I already touched upon this theme of the relationship between the regulated and their customers. In this section I want to deal with service relationships in the context of legal procedures such as the section 17 procedure in the U.K. and the "EN" procedure in Germany.

Filling in legal forms as a service provision

The attitude of the U.K. RA

According to para.4 of the U.K. Special Waste Regulations 1980 waste producers should fill in the waste description in the section 17 note. On the advice sheet it provided for waste producers and waste hauliers the U.K. RA said:

"Producers please note: You are responsible for the contents of this documentation. You should not delegate its completion to carriers or disposers".

The U.K. RA might not have welcomed the practice of waste hauliers filling in section 17 notes for waste producers because it might diminish the quality of descriptions of waste. In the U.K., waste hauliers are often part of the same company which also provides the final disposal outlets for them. Thus waste hauliers or disposers might take into account what wastes they are allowed to take into their company's site when providing a description of the waste producer's waste.

A U.K. waste control officer told me she welcomed that in future, section 17 forms would only be available from the RA, so that waste disposal operators could no longer print their own section 17 forms. Then it would be less easy for waste management operators to fill in section 17 forms for waste producers.

The U.K. RA, however, provided exemptions from the general requirement that waste producers should fill in the section 17 notes. In a folder with standard letters from the RA to operators I found a letter which said that, according to a senior officer, the RA agreed with the practice of waste disposal contractors filling in section 17 notes for the waste producer, as long as the waste producer would finally sign the note. In certain cases further exemptions could be considered. Contractors could sign the section 17 note for the waste producer as long as the producer would still recognize that he was responsible in law for the accuracy of the information.

How were these procedures handled in practice by the plants?

Observations from the German and the U.K. waste treatment plant

The U.K. waste management company who operated the treatment plant also ran a transport depot which dealt with a range of wastes, including solid special wastes. Both at the German waste management plant and the U.K. transport depot it was regarded as part of the service for waste producers to handle the paper procedure of the "EN" and the section 17 note. The legal regulations envisaged, though, that the waste producer would fill in some parts of the "EN" and the section 17 form (para 4.1. Special Waste Regulations 1980; § 9(1) AbfRestÜberwV). But it was in fact the staff at the waste management plants who did this for the customer.

The staff at the German waste management plant argued that they were filling in the forms for the waste holder because waste holders were not able to fill in the forms properly. This seemed to be supported by my observations. A great deal of time and effort was spent on correcting mistakes and gathering necessary information that had not been supplied by the waste producer on the "EN" form. Part of the service provided by the customer was not just to fill in the "EN" forms but also to get the "EN" authorized by the RA. This involved the management of relationships with the RA.

Liaising with the RA as part of the waste disposal service

Sometimes the waste management plant wanted to dispose of the waste in a waste management facility which was different from what the guide-lines in the "TA Sonderabfall" recommended. Then arguments were devised to convince the RA of the case for a different disposal facility. Through their experience of submitting "ENs" regularly to the RA, the staff at the German waste management plant had learned which kind of arguments the authority was likely to accept and which they would reject. Sometimes the RA handed "EN" forms back to the waste management plant with requests for corrections. These corrections would provide further clues for ways how to fill in the forms successfully. Thus, part of the service offered by the plant to the waste holder was to get the "EN" approved by the RA. For example, in a letter to the German waste management plant a waste producer asked:

'to obtain authorization from the RA for an increase in the annual amount of waste disposed' [by this waste producer].

The "ENs" provided an authorization for a particular disposal path only for a specified amount of waste. An increase in the amount of waste to be disposed had to be separately authorized by the RA.

The authorization of larger amounts of waste for disposal was relevant for the interpretation of the legal requirements of the "TA Sonderabfall". According to para.

4.1. of the "TA Sonderabfall", the amount of waste that should be disposed should be minimized and the amount of waste for recycling should be increased. Convincing the RA of an interpretation of the legal regulations that suited the plants' customers was part of the service to the waste holders provided by the German plant. A further illustration of how service relationships with customers could influence the way in which the "EN" procedure was handled is special deals between customers and the German waste management plant.

Special deals with customers of the German waste management plant

According to one of the employees in the German waste management plant who handled the "EN" procedure, the managing director of the plant had agreed with some important customers that they should have a broader range of final waste disposal options. This was an improved service to the customer. It could remedy problems that would arise, if, for example, a waste load was not in conformity with the acceptance parameters of the final waste disposer to which it was supposed to go. If the waste could not be brought to the final disposal outlet as authorized under one "EN" then, in case a second "EN" had been authorized, the waste could be brought to a different final disposal outlet. Hence, commercial interests of the waste disposal plant could be integrated with legal requirements by having a second "EN" ready.

This avoided having to break the acceptance parameters of the first "EN" form.

Under the "EN" procedure, a chemical analysis of the waste has to be given to the RA to have a different final waste disposer approved. According to the office employee, she started to phone up the customers to ask them to supply further samples of their waste streams in order to be able to provide an analysis of the waste sample under the "EN" procedure. According to her she was told by customers on the phone that the managing director had taken the view that no further tests were required and that the analyses from the previous "EN" for the different disposal outlets could be used. But normally for different disposal outlets distinct types of chemical analyses were required. For example, a chemical analysis to assess a waste's suitability for landfill would test a different range of parameters than an analysis that would test a waste's suitability for incineration. The "no further chemical analysis" deal meant that no additional costs for the analysis of the samples would arise for the customers. The office employee expressed her disagreement with these special arrangements. One of the lab technicians who listened to the account replied:

'Yes, I know about this, too and then the customer tells you how your own organization works. This really is an impossible situation'.

Thus, the chemists from the lab of the German waste management plant did not necessarily support some of the commercial arrangements which could give customers

considerable influence over the way analysis procedures were handled. Also, occasionally notes would be attached to "ENs" which said that due to a deal with the waste haulier the German waste management plant had waived the requirement for a chemical analysis of the waste stream. Sometimes the haulier would spell out that he would only accept analytical costs below a certain amount. But also on a daily basis, apart from special arrangements, it appeared that staff at the treatment plants considered the provision of a service to customers as part of their task.

Liaising with customers

The supervisor of the German waste treatment plant had suggested to the management that the treatment plant should also be responsible for the booking in of waste loads into the treatment plant. This would enable the treatment plant to better serve customers' wishes. Currently the booking-in of waste loads for the treatment plant was carried out by an employee in the office, separate from the treatment plant, at the German waste management plant.

Some commercial tasks were also part of the chemists' work at the U.K. waste treatment plant. For example, the chemists were sometimes involved in the marketing of waste treatment services. This meant that the senior chemist would visit potential customers to advise on their production process design. Alterations to

the process could change the composition of the waste stream. As a result of this, the U.K. treatment plant might be able to take in the waste stream for disposal. The commercial context of the relationship between different actors in the waste management chain could make the implementation of legal requirements more difficult. In order to implement the legal requirements of the U.K. plant's site licence, such as the prohibition against mixing incompatible waste loads, it was important that the chemists had sufficient information about waste loads. The commercial context of the relationship between the hauliers and the waste treatment plant had an impact on how much information the chemists would get about waste loads. Normally in the booking-in procedure, the name of the waste producer would be given. But some hauliers would refuse to give the name of the waste producer because they were afraid that the transport division of the treatment plant would approach the waste producer and take the haulage job from the current carrier. The chemists and the technician complained that not being given the name of the waste producer would mean a loss of information about the waste loads. Though in a number of cases legal provisions were not enforced against different actors in the waste management chain, in some situations provisions were enforced. Service relationships could influence what was understood as legal requirements in practice and compliance with them. A further aspect of this was the enforcement or non -

enforcement of legal regulations among different actors in the waste management chain.

Enforcement of legal provisions among different actors in the waste management chain?

Introduction

The chemists at the U.K. waste treatment plant seemed to think that other actors' lack of implementation of legal requirements had 'nothing to do with them'. If, for example, loads were wrongly described by hauliers or if hauliers moved waste without section 17 notes, then the chemists would not be too concerned as long as they could take the waste load into the treatment plant. According to the U.K. RA this attitude was not quite acceptable. In the view of some waste control officers the plant was responsible for the wastes until they were discharged to the sewer or transported away as filter cake. Further examples of the lack of enforcement of legal provisions by other actors in the waste management chain were some health and safety provisions.

Health and safety provisions

Under health and safety provisions, waste loads should be accompanied by data sheets that give information about the physical and chemical properties of the waste so that employees who come into contact with these substances can take adequate safety precautions (section 6 (3) (c) (d) Health and Safety at Work Act

1974). The sales representatives sometimes supplied forms with the waste sample and these indicated: "Always provide data sheets". Most of the loads coming into the U.K. waste treatment plant did not have these data sheets. Also, it appeared that sometimes business relationships would be maintained with customers who might not observe legal provisions or even constitute problems for the plants.

Doing business with "cowboy" hauliers

Both the U.K. and the German waste treatment plant continued to do business with hauliers whom they perceived as "cowboy" hauliers. This was despite the fact that the operating practices of these hauliers sometimes even posed problems for the working of the waste treatment plants themselves. For example, one customer of the German waste treatment was a haulier who frequently described incorrectly loads he brought into the plant. Also, the U.K. waste treatment plant continued to do business with someone the chemists described as a "cowboy" haulier. Most of the loads which were rejected at the plant came from this haulier. According to the chemists he tried 'to slip things into the plant'. Although unsuitable loads could cause problems for the working of the plant the commercial interest to take loads into the plant seemed to override this.

According to staff from the laboratory at the German waste management plant, some hauliers would cheat in

connection with the legal provisions of "Sammel-ENs". Under § 10 AbfRestÜberwV 1990 the "Sammel-EN" allowed a limited amount of a mixture of waste loads to be transported together. But this procedure could be extended to larger amounts of waste if the transfer notes were written out for three days. All the waste was in fact, however, delivered during one day. Thus, from the records of the transfer notes it would appear that waste on this "Sammel-EN" was delivered on three separate days while in reality a larger waste load was delivered on one day, contrary to the formal legal provisions on the "Sammel-EN". Hence, formal records would not necessarily accurately reflect what happened in practice.

What is more, the following incident illustrates that the German waste management plant did not automatically enforce legal provisions against waste holders. A waste producer had applied to the waste management plant for waste disposal. One of the employees in the office queried the waste code the producer had attached to his waste. The employee voiced to her colleagues her suspicion that the waste producer might have consciously chosen a waste code that was not quite appropriate for the waste in order to circumvent the legal guidance according to which this waste should have gone into a particular waste disposal plant. The supervisor of the group replied:

'So what? This is the customers' business. Let's see if the RA will object [to this application]'.
'

Also, the German plant had accepted from a haulier a load where the producer had mixed oily wastes and interceptor wastes. These wastes were similar as far as their chemical composition was concerned. But to mix them was a breach of the prohibition on the mixing of wastes under para. 4.2. of the "TA Sonderabfall" regulations. By mixing them, the producer was able to make these wastes appear as one waste load and thus have only one "EN" procedure for them. The RA finally found out about this. One of the employees from the group who handled the "EN" procedure at the plant told the waste producer that the plant saw no problem with this mixing of wastes but that the RA did not agree with it.

Limits to the lack of enforcement of legal regulations among different actors in the waste management chain

One day the staff in the office who handled the "EN" procedure discussed the following incident. A customer had applied to have his waste disposed at the German waste management plant. He had filled in the "EN" application form. On the part of the forms where the analysis of the waste was required, the customer had filled in two forms. One of them was within the limits so that the waste would fulfil the required parameters for incineration and the other form was filled in with the required parameters for landfill. Thus the chemical analysis provided of the waste was not an analysis by a chemical laboratory but consisted just of values written into the "EN" form. Furthermore the customer had adapted

his description of the waste so that they would fulfill the requirements of two disposal paths. The technical manager of the plant was shown this application. He said that such an application could not be accepted and thus had to be sent back to the customer.

Conclusion

Service relationships in the waste management chain, one facet of commercial contexts, could influence how legal provisions for the handling of waste such as the section 17 note or the "EN" procedure would be dealt with in practice. Legal procedures were often not just handled by one person but were related to the actions of various different actors in the waste management chain. For example, to some extent waste treatment plants did not enforce legal provisions against other members in the waste management chain. The relationship between these different actors is relevant for understanding how the law gains meaning in practice.

4.5. Conclusion

In this chapter I explored how commercial issues can have an impact on the handling of wastes at the German and U.K. waste management plants. In particular I looked at the procedures for testing and rejecting incoming waste loads, some other procedures at the waste treatment plants and service relationships in the waste management chain. When implementing procedures in practice, commercial considerations were taken into account. In

some situations commercial considerations could be in conflict with legal requirements; in others, they could be integrated with legal requirements. Procedures for handling waste could be set up in such a way as to allow for the integration of legal requirements and commercial aims. Hence, commercial aims did not necessarily lead to the "breaking" of testing requirements. Loads would be tested, but in less rigorous ways. It seems that integration is also an appropriate term to describe the staff's attitude towards both legal requirements and commercial aspects of their work. In some situations both legal requirements and commercial aims were perceived as important. The question did not seem to be whether one took precedence over the other, but of how to achieve both in practice. Thus, the way commercial contexts influence the handling of waste cannot be determined in the abstract. Empirical observations can show that commercial interests might also promote testing procedures, such as the extended testing facilities at the U.K. plant, or the pricing system at the German plant. This has implications for understanding "empirical compliance" i.e. compliance in practice. If there was compliance it was not necessarily compliance with "legal requirements". It could be compliance with an amalgam of norms such as legal requirements mediated by commercial considerations. What would be "normative" requirements on the ground was influenced by a range of aims and motivations at the plant: to implement legal requirements but also to pursue commercial aims.

CHAPTER 5: TECHNOLOGICAL CONTEXTS AND LEGAL REQUIREMENTS

5.1. Introduction

In the following chapter I want to explore the relationship between technology and legal requirements. In the first section of the chapter (5.2.) I will look at the direct relationship between technology and the implementation of legal requirements in practice. This section has two parts. In the first part (5.2.1.) I will explore the question of how technology might restrict the implementation of legal requirements. In the second part (5.2.2.) I will discuss how technology might promote the implementation of legal provisions. In the second section (5.3.) of the chapter I will explore a more indirect relationship between technology and the handling of legal provisions. How might a low technology culture affect the implementation of legal requirements? In the third section of this chapter (5.4.) I will look at how deviations from site licence requirements, in the form of minor accidents at the U.K. waste treatment plant, became normal operating practices.

5.2. A direct link between technology and the implementation of legal requirements

5.2.1. Technology restricting the implementation of legal requirements

Process control and legal requirements

The degree of control over the process of waste treatment could determine if or to what extent legal requirements could be implemented. Different types of plant technology could provide different degrees of control over the waste management process. The German "TA Sonderabfall" attempts to increase process control so that observance of legal requirements could be to some extent "built" into a plant. For example, it requires automatic measurement and control devices for new chemical-physical waste treatment plants (para. 8.3.1.1.). But in practice there seemed to be aspects of plant technology which made the implementation of legal requirements difficult.

Control over waste mixtures in an incinerator

During a supervision visit to a waste incineration plant, a German waste control officer went into the room from which an employee operated a crane. With this crane the employee picked up waste from the waste storage bunker and then loaded it into the incinerator. The way the waste was mixed had an influence on the emissions from the incinerator. Some waste mixtures would produce a higher amount of certain emissions than others. For example, particularly wet loads with a high proportion of liquid wastes can increase CO emissions in the stack gases. During the visit the waste control officer asked if the crane operator could see from his work place measurement instruments which showed what the actual emissions from the incinerator were. According to the

technical manager, there were no such measurement instruments available in the crane operator's box. The foreman, however, would tell the crane operator if an increase in air emissions occurred. Thus having no measurement instruments in his box, the crane operator had only a limited amount of control over the incineration process. He could not watch the level of emissions, though this was regulated through legal requirements in the site licence. Hence, the technology of the plant could determine if legal requirements could in practice gain meaning. Some lack of control over the treatment process could also be found in the German waste treatment plant.

Limits to re-treating loads in the waste treatment plants

In some cases if substances in the effluent were above the discharge consent limits this could be dealt with through re-treating the load. Treated waste loads would be diluted through mixing them with new wastes. But there were limits to the 'recycling' of loads in order to achieve the values set for discharges the sewer both in the German and the U.K. waste treatment plants. In order to recycle loads, there had to be sufficient storage space. According to the staff working in the German and the U.K. waste treatment plants, this was a problem when the plants were working at full capacity. It was less of a problem during the recession, when, due to a reduced volume of wastes coming into the plant, there was sufficient space. There were further limits to re-

treating loads. For some substances, re-treating loads was not a solution to reduce the effluent to discharge limits. For example, according to a laboratory technician at the German plant, if the cyanide treatment process did not work as envisaged then high levels of cyanide would still be found in the effluent that was to be discharged into the sewer. Also, at the U.K. waste treatment plant, the plant technology seemed to make the implementation of legal requirements difficult. The senior chemist explained to me that the very low levels set in the discharge consent for some of the heavy metals meant that the usual practices of dilution would not bring down the level of metals sufficiently in the effluent which was to be discharged to the sewer. According to him, the low levels of metals allowed under the new discharge consent required an amount of process control that the plant technology could not provide. Also, an audit report prepared by a waste producer who disposed of his waste through the U.K. treatment plant criticised its lack of process control. The report said that once a waste load had been discharged there was no control over it until its disposal as filter cake and as effluent to the sewer.

Limits to interrupting chemical treatment processes

The technology of the U.K. waste treatment plant provided relatively little control over the chemical reactions. Once wastes were mixed they could not be separated again. If an adverse chemical reaction occurred - resulting in the release of toxic fumes - it could

hardly be halted. As a precautionary measure, the RA had agreed with the plant that acids for the treatment of the waste should not be run directly from the tanker into the mixture of wastes to be treated. Instead, acids were to be pumped first into a storage tank and then discharged into the treatment tank in a more controlled manner. Operational problems, however, could create difficulties for the implementation of this procedure. During the time that I was at the plant, the acid pump broke down. Until the pump was repaired it was not possible to discharge loads first into the storage tank but acids had to be discharged directly into the treatment tank.

Conclusion

The technology of both the U.K. and German waste treatment plants could affect the implementation of legal requirements. In particular, control over the treatment process could have an impact on how discharge consent limits could be implemented. For some of the discrepancies between what seemed technically possible and what was legally required the notion of a "gap" seems adequate. Both a lack of process control and malfunctioning of equipment at the plants could make the implementation of legal requirements more difficult.

Malfunctioning of equipment and legal requirements

Design problems

According to a U.K. waste control officer, there could be technical obstacles to the implementation of legal requirements. At one waste management facility, the operator had installed an incorrectly designed roof for the treatment hall. The RA had required the operator to install an extraction system in a hall in which employees were working. This was to deal with fumes arising from filter presses in this hall. But according to the waste control officer, since the roof was shaped like an inverted V, the extraction system did not work efficiently. Thus design problems could be a long term impediment to complete compliance, such as here where the efficient working of the extraction system was restricted.

Control panels not working

Also, the U.K. waste treatment plant had not been purposebuilt, but had been constructed with second hand parts from old sewage works. Parts used to break down. Sometimes the shift change-over report between the two chemists would read like this:

'Well, Herbert broke pit two yesterday. The acid pump is still not working. Press three is broken'.

Also, there was a control panel in the old laboratory. It was supposed to show when the tanks, in which the liquid wastes were treated or stored, were full. But most of these tank level indicators did not work. Section 22 of the site licence for the plant required:

"Sufficient instrumentation shall be provided and utilised to ensure that a satisfactory standard of treatment is maintained at the facility and to warn of any process malfunction. This instrumentation shall be regularly checked and maintained and any faults shall be rectified without delay".

According to the plant electrician, during a previous summer one of the tanks containing liquid wastes was so full that in the hot weather the waste expanded and flowed over from the tank. Finally, the control panel was repaired. New tank level indicators were installed. At the beginning, however, these did not work either. For some time the tank levels had to be checked by a charge hand climbing up the tanks and looking into them. There were five horizontal metal rings visible in the tank and these served as guides for guessing the tank contents. If the tank was full up to the first metal ring then 20% of the tank were filled.

The state of the equipment in the German waste management plant seemed to be better and the supervisor of the treatment plant told me that they did not have much problems with the equipment. Thus, it seems that particularly at the U.K. plant, the lack of maintenance and the malfunctioning of equipment could make the implementation of site licence requirements more difficult. In some situations, however, the plant technology could not only impede the implementation of site licence requirements but could also promote it.

5.2.2. Technology can promote the implementation of site licence requirements

Protecting plant technology from damage

It seemed that at the U.K. waste treatment plant, the implementation of site licence requirements could be promoted by the aim to protect plant technology from damage. The site licence required the operator to only take waste loads which the plant could treat. It was in the operator's own interest to try and screen out loads which the plant had difficulties in treating, particularly if those loads could detrimentally affect the plant technology. For example, viscous latex loads could not be handled by the plant and needed to be screened out because they could damage pumps and pipework. Implementation of legal requirements could also be incorporated into the plant.

Pipework and design of the plant

According to the supervisor of the German waste treatment plant, the pipe work was set up so that the legal prohibition on the mixing of wastes was applied (para 4.2. "TA Sonderabfall"). There were two areas to the German waste treatment plant. Firstly, there was the pre - treatment plant, which dealt mainly with oily wastes. Secondly, there was the chemical treatment site, which handled acids, alkalines etc. The supervisor told me that one day an officer from the RA had come to make a supervision visit and he checked that there was no

possibility of mixing incoming waste loads from the pre-treatment plant with incoming waste loads from the chemical treatment side. This prohibition on the mixing of waste loads from the pre-treatment plant and the chemical side of the treatment was also important in order to ensure the implementation of the discharge consent limits on substances such as mercury. Only the effluent from the chemical treatment site was tested for mercury. The effluent from the pre - treatment side was not tested for mercury since it would normally not be expected to be present in oily emulsions.

Conclusion

In this section I have illustrated how the technology of a treatment plant can affect in a direct way how and if site licence and other legal requirements are implemented in practice. In the following section, I want to consider if the technology at the plant can also affect the implementation of legal requirements in a more indirect way. A low technology environment might contribute to a culture at the plant where the implementation of some site licence requirements might not be the first priority.

5.3. "Bucket chemistry": Technology, culture and legal requirements

5.3.1. "Bucket chemistry"

In the following section I want to illustrate what the term "bucket chemistry" means by referring to some of its characteristic aspects. These are limited knowledge over process parameters and low treatment technology. They distinguish waste treatment from modern chemical production.

Limited knowledge over process parameters

The treatment process at the U.K. plant was described by the chemists as "bucket chemistry". Basically, waste treatment at the plant meant the mixing together of loads of liquid wastes. By adding acid and then lime, the metals in the liquid wastes were "felled out" as metal hydroxides. Since waste is never a pure product but a mixture of various substances, not all the substances which take part in the waste treatment process are known and the chemical reactions are not fully understood. The treatment process was therefore not completely controlled from the beginning to the end. Instead, it was partly operated according to trial and error. For example, the amount of lime needed for the neutralisation of the waste mix after it had been acidified could vary. Lime was run into the waste mixture. The ph-value of the waste mixture had to be checked and then some more lime might need to be added. In case certain metals could not be treated by this method, the whole load had to be divided into two. Each half of the load could then be mixed with new incoming wastes. Thus, the problematic substances in the waste

would be diluted if there was sufficient tank space for such 'recycling' of loads.

Some aspects of the German waste treatment process could also be described as "bucket chemistry". The waste treatment process at the German plant was in principle the same as that at the U.K. plant, except that the treatment processes were carried out in smaller reaction vessels. During a first tour around the plant, the laboratory manager showed me the control panel in the treatment plant. The panel provided the possibility of opening or closing the treatment tanks' valves. The lab manager pointed this out as an aspect of the advanced technology of the plant. According to the staff working in the treatment plant, however, they were reluctant to use the valve opening mechanisms on the control panel. They felt they had more control over the treatment process by opening or closing valves manually at the tanks. This was because the amount of treatment chemicals needed could not be specified in advance but had to be found out by adding small quantities of them. Then progress in the treatment of the waste load had to be controlled through measuring the ph-value each time after adding treatment chemicals. One day the supervisor in the treatment plant asked the apprentice to treat an acid load with a chemical. The apprentice asked how much treatment chemical he should add to the acid. The supervisor replied:

'Well, you have to see how it feels. I can't tell you exactly how much. Keep checking with the test strip if iron is still in the load'.

Thus, "bucket chemistry" involved limited knowledge about the treatment process and partly a trial and error approach in handling the waste loads.

At the German waste treatment plant, there was also a pre-treatment provision for oily waste loads. This treatment process was literally 'bucket-chemistry'. A bucket full of the chemical separation agent would be added to part of the waste load. Then a smaller bucket would be filled with the mixture and through a visual inspection an employee from the treatment plant would check how well the oil had been separated out from the rest of the load. It was not possible to specify in advance how much of the chemical reagent was needed to treat the oily waste loads. This had to be newly tried out every time. Thus, also at the German treatment plant, control over the treatment process was to some extent ad-hoc and incremental.

Waste treatment as a low technology process

The treatment process at the U.K. plant involved low level technology. This is also illustrated by the following account. According to the senior chemist, a proposal was put before the company board. According to him, it was probably described as the plan for a 'sulphuric acid treatment plant'. In the view of the chemist, in reality it would be a waste water after-treatment. He explained that although the plant was

already licensed to take in sulphuric acids, they were usually not taken because they caused treatment problems. It was normally not possible to comply with the very low limit for some metals of 0.5 mg/l in the discharge consent when treating these loads. With the new 'sulphuric acid treatment plant' an additional tank would be installed, so that loads which would not come down to discharge consent limits after the first round of treatment could be re-treated. The new tank would provide the additional storage space needed. Thus, the new sulphuric acid treatment plant was not much more than an additional tank to have storage space for the dilution of waste loads.

Differences between waste treatment and chemical production

The characteristics of the waste treatment process, as outlined above, indicate some differences between waste treatment and chemical production. The waste treatment process is not tightly controlled. No particular specifications have to be worked to when treating wastes. The most specific control on the treatment process is the fact that the effluent which is to be discharged to the sewer has to meet the limits on certain parameters as set out by the discharge consent.

A chemical production process, in contrast, is controlled by the fact that a specified product has to be obtained at the end of it. The specification for the

filter cake which was produced at the end of the treatment process in the U.K. waste treatment plant was very broad and vague. It was supposed to be not 'too sloppy' because a too high water content would pose problems for landfilling the filter cake. In the filterpress house, a sheet was provided for the employees who operated the filterpresses to record the quality of the filtercake. The descriptions here of the filter cake were 'shit', 'sloppy' and 'o.k.'.

Conclusion

At the U.K. waste treatment plant, and to a lesser extent at the German plant, the treatment process was not a highly technical operation, controlled through a pre-specified and fixed treatment scheme. Instead, operations were partly handled in a trial and error fashion, in an ad hoc way, with low technology and an incremental approach towards the chemical-physical treatment of waste loads. In the following section I want to ask what impact, if any, such a low technology environment might have on attitudes towards the implementation of site licence requirements.

5.3.2. The impact of "bucket chemistry" on attitudes towards the handling of legal requirements

In section 5.2., I described how technology could influence the implementation of legal requirements in a direct way, through lack of process control and malfunctioning of equipment. I want to suggest that

technology could also influence the implementation of legal requirements in a more indirect way. In my view "bucket chemistry" could contribute to a particular culture at the plants which influenced perceptions, attitudes and approaches towards the handling of waste. I will illustrate this in connection with the testing of waste loads.

Testing of incoming waste loads at the U.K. waste treatment plant

The treatment process was "bucket chemistry" and did not require careful or exact handling of waste loads. In my view, the haphazard way in which waste was chemically treated influenced employees' attitudes towards legal procedures. "Bucket testing" is part of "bucket chemistry". It might have been more surprising if, amidst the rudimentary and partly malfunctioning technology of the U.K. plant, there would have been careful and exact observance of the specific steps of various procedures. "Bucket chemistry" did not require the sophisticated quality management procedures which the supervisor tried to implement at the U.K. waste treatment plant. "Bucket chemistry" could work successfully without this. One of the quality management procedures which the U.K. plant tried to implement, was that the results from the testing of incoming waste loads should be recorded on sheets and that those sheets should be filed. But often these sheets would be laying around in various corners of the laboratory or be stashed into the bin. These quality

management standards were frequently linked to the implementation of legal requirements. For example, the site licence required that a record should be kept of all the waste loads treated (conditions 3 and 20).

Also, at the U.K. waste treatment plant, the testing of incoming waste loads was partly rudimentary. Individual waste loads arriving on the yard would sometimes only be tested through smelling or a visual examination of the sample, rather than the use of Merck-dip kit test. There were commercial pressures to the time limit and effort spent on testing (as discussed in chapter 4). But apart from this, another factor that might have mitigated against detailed testing was that this was not necessarily required in order to make the treatment technology work.

Testing of in-coming waste loads in the German waste management plant

There was more testing of incoming waste loads at the German plant than at the U.K. plant. The main reason for this was probably that at the German waste management plant the analysis facilities of the laboratory were not part of the waste treatment plant. The testing of incoming waste loads there was under the separate control of the laboratory. But where the waste treatment plant had some control over the testing it seemed to prefer limited testing. The supervisor of the waste treatment plant explained to me that in the mornings a visual

inspection of a waste load that had been treated during the previous day was sufficient, in order to check if the metals contained in the load had been treated. According to him, it was not really necessary to check with Merck dip kit strips or to send a sample to the laboratory for a more detailed chemical analysis. Again, it seemed that the treatment process could work without more detailed testing and thus there was no elaborate testing.

The link between "bucket chemistry" and a rudimentary level of testing seemed also to exist in other parts of the German waste management plant. It had tanks for the temporary storage of liquid waste loads which were to go to incineration for final disposal. It was the task of the laboratory technicians to assign the incoming liquid waste loads - according to their chemical composition - to one of the waste tanks. According to the laboratory staff, "mixed rubbish" went into the tanks. Not many tests could be done on "mixed rubbish" anyway. In fact the tanks were only distinguished through the criteria "flammable" or "non-flammable". Thus, one aspect of "bucket chemistry", i.e. the allocation of waste loads to the tanks according to a few criteria, meant that no extensive testing was necessary.

Also, according to a German waste control officer, it mitigated against the implementation of legal requirements that waste management facilities were just handling waste and did not produce a product which had to conform to certain specifications. He said that it

basically did not matter much what was coming out of the waste management process at the end. End products from waste management processes, like emissions to air, water or soil, had to comply with relevant legal standards, for example limits on stack emissions. There was, however, no commercial incentive to produce these end products to a certain standard as there would be in a production process. In my view, this also meant that there were not many incentives to set up technology that would allow for more control over end products. In order to make the treatment process work, low technology could be sufficient. This in turn could mean that there was no technical incentive to comply with extensive testing requirements. Thus a low technology environment at the plants might contribute to a culture where the careful and exact implementation of site licence requirements is not considered very important.

5.4. Routine accidents

Introduction

In the following section I want to describe one particular aspect of "bucket chemistry" at the U.K. waste treatment plant. This was the fact that from time to time minor accidents would occur. This could mean that U.K. site licence provisions which required that incompatible waste loads should not be mixed, were not implemented. What implications do these accidents have for

understanding what constitutes compliance and what constitutes "deviance"?

Minor accidents

At the U.K. waste treatment plant, there were occasionally "NO_x" reactions at the grids where waste loads would be discharged. "NO_x" reactions would occur when acids and nitrates - incompatible waste loads - were mixed. This could happen when a previous waste load was not completely cleared out of the discharge pit while a new acid load was discharged. Or, on the other hand, the level of nitrates in a waste load might have been assumed to be lower than it finally turned out to be. These minor "accidents" did not appear to be an aberration from normal work practices but a part of the way the U.K. treatment plant was run. They seemed to be "normal accidents" (Perrow, 1984) which were one aspect of work practices rather than a temporary breakdown of order. This also seems to be illustrated by the following incident.

Noxing of the grids

One day the chemist and the technical services director, who had come to visit the plant, had a conversation in the laboratory of the U.K. plant. The chemist told the director that a NO_x-reaction had happened while a group of local councillors had come down to visit the plant. A waste load which contained nitrates had just been discharged into one of the pits. There was

another tanker which had a waste load of acids. This tanker backed-up into the off-loading bay and hit the wall. It broke its valve and acid leaked out onto the nitrates load in the discharge pit. The pit started to "nox". Slightly alarmed the technical services director asked if the councillors had written a complaint about this. The chemist replied, laughing:

'Oh, no, no, we just showed them the other side of the scrap yard. They were quite happy. They don't understand anything anyway. We hosed the pit down with water and so dealt with it'.

Hence, minor accidents were considered by the staff as routine matters rather than as serious incidents and third parties, such as the councillors, did not provide controls on these accidents.

Accidents which become 'singled out'

When the RA takes out a prosecution in connection with accidents one could initially gain the impression that accidents are isolated, specific events. But in my view, accidents could be the "tip of the iceberg" rather than an event out of the ordinary. In cases where both the German and the U.K. RA would take out a prosecution against a waste management site, the reasons for which the site was finally prosecuted were recurring incidents rather than an isolated one. For example, the tanks of a U.K. treatment plant, according to the site licence, should have had lids on. Condition 26 of the site licence for this facility required:

"Tanks used for the storage and treatment of wastes likely to give rise to fumes or

odours shall be of a closed construction and fitted with extraction equipment. Equipment shall be provided to treat extracted gases to the satisfaction of the WDA to minimize fumes and odours released to atmosphere".

The RA had attempted over some time to get the operator to put lids on the tanks. Finally, an accident occurred at the site. In one of the tanks an adverse reaction happened. Two incompatible wastes were accidentally mixed in a tank and noxious fumes rose from it. Since the tanks were without lids, the noxious fumes could have escaped into the atmosphere and thus have had an impact on the people in the vicinity of the plant. One of the employees at the waste treatment plant needed hospital treatment.

The U.K. RA prosecuted the operator for this accident. One of the charges was brought under section 3 (1) b) COPA 1974 for operating a process in contravention of the site licence conditions. The condition that the tanks should have lids had been in the site licence for some time, but only when the accident occurred was the operation of the process officially defined as being in contravention of the site licence requirements. Before the court action this had been an ongoing situation at the site.

There were also insufficient measurement instruments at the plant which contributed to the accident. Again this had been an ongoing situation at the site and was only formally classified as "non-compliance" when the prosecution for the accident was brought. The accident

which finally occurred due to the mixing of incompatible waste loads thus seemed to be not an aberration from the normal working practices at the plant but the result of ongoing working patterns and the low level of technology at the plant. The following is a quote from the facts set out in a file for the criminal prosecution of the company:

"It is the prosecution's contention that the x company was at fault in that they failed to provide level indicators on tank 2, so that y [site chemist] could not tell from the indicators whether tank 2 contained any waste and failed to provide adequate illumination of the tank, so that y could not see the bottom of tank 2 and could only tell the volume of the tank by spitting into it and listening for the echo".

"Normal" accidents could become routinized and could be to some extent part and parcel of operations. "Normal accidents" formed part of the pattern of handling wastes and dealing with legal requirements at the U.K. plant. What became later, for example in prosecutions for accidents classified as "non-compliance" with site licence requirements, might have been in practice not 'deviance' but a normal state of operations at a site.

5.5. Conclusion

In this chapter, I explored the relevance of the context of technology for the implementation of legal requirements at the waste treatment plants. Technology can in a direct way both restrict and promote the implementation of legal requirements. Technology can make it impossible or difficult to implement legal

requirements but it can also provide an incentive for implementing site licence provisions.

"Bucket chemistry", which describes the low technology at the U.K. and partly at the German waste treatment plant, might also influence the implementation of legal requirements in a more indirect way. "Bucket chemistry" can promote a certain culture at the plant which influences the staff's attitudes towards the handling of waste. For example, "bucket chemistry" can lead to "bucket testing". "Bucket chemistry" can mean that there are few technical incentives for the implementation of site licence requirements.

In the first two parts of the chapter (section 5.2. and 5.3.) I described some "gaps" between the technology of the plants and legal requirements. In the last section of the chapter (5.4.) I illustrated how in the case of "normal accidents" deviance from site licence provisions can become part of the normal operating procedures at a plant. Hence, deviance might be an abstract and misleading term to describe aspects of site operations which fail to fulfil site licence requirements. Deviance might in fact be compliance with normal operating procedures and only become classified officially as deviance in a few cases when prosecutions are finally taken.

CHAPTER 6: WORK GROUP NORMS AND LEGAL REQUIREMENTS

6.1. Introduction

In the following chapter I want to explore how work groups contribute to the creation and management of standards for compliance in practice. Is the handling of legal provisions influenced by the ways in which work and communication between different groups at work are organized? Firstly, I will deal with the relationship between the sales staff and the chemists at the U.K. waste treatment plant. Secondly, I will look at the relationship between different groups of staff at the German waste management plant.

6.2. The relationship between the sales staff and the chemists at the U.K. waste treatment plant

The chemists were one of the work groups at the U.K. waste treatment plant. They formed a group on the basis of their membership of a common profession. They considered themselves different from the employees working on the yard through their knowledge and control over the treatment process. At the U.K. waste treatment plant, there was also a sales force which was separate from the chemists in the laboratory. The sales staff were housed in their own office. They did not work much at the plant but often went out to potential customers in order to get waste producers to bring their waste into the plant.

Pressure from the sales staff to take in waste loads

Sometimes there were conflicts between the chemists and the sales staff. The sales staff were keen to bring as much waste as possible into the plant. The chemists could interfere with those efforts because it was their task to judge what waste could be brought into the plant according to its technology and the site licence. The sales staff would try in various ways to get approval of samples by the chemists. On one occasion I observed a sales representative handing in a waste sample with an analysis form. On the right hand corner of the form the sales representative had written as an instruction to the chemists: "For approval for landfill". Since the U.K. waste management plant was also operating a landfill site the chemists at the treatment plant would sometimes also deal with wastes that were to go to landfill.

Also the sales staff would try to persuade the chemists to approve samples for the treatment plant by letting them know that the sample was from an existing customer. This could be seen as an indication to the chemist that the refusal of the sample would be a commercial risk. In a more direct way the sales representative would tell the technician:

'We could do with the revenue'.

Another occasion where the sales staff would try to persuade the chemists to approve waste loads was the case of load rejections.

'Finding a home' for rejected waste loads

It was the task of the head of the sales staff in the U.K. plant to deal with loads which had been rejected by the chemists. According to him, this meant that he 'had to find a home', i.e. an alternative disposal outlet, for the rejected loads. He described his task in relation to rejected loads in the following way:

'I try to strike a compromise between the sales people who basically want to bring everything into the plant and the chemists who reject things out of hand'.

Sometimes the head of the sales staff tried to force some of the rejected waste loads back into the plant. For example, he would engage in arguments with the chemists about the adequacy of the chemical tests, the results of which had shown that the waste load should be rejected. One day the chemist had been given a waste sample in order to assess if the waste could be taken into the plant. The chemist found that after treatment with the plant sludge, the waste still contained too high concentrations of heavy metals. There were limits on the discharge of these heavy metals in the discharge consent. According to the chemist, the high heavy metal content in the waste sample meant that this particular waste stream was not suitable for the plant. The chemist reported this result to the head of the sales staff. He was not happy with it and he queried it. The head of the sales staff said that, according to the waste producer, there were no heavy metals as found by the chemist in the waste load. The chemist replied that it was possible that the heavy

metals only showed up in the tests because of complexants. Complexants occurred frequently in waste loads and could pose problems because they would keep metals in suspension and thus prevent these metals from being treated out as metalhydroxides. The head of the sales staff would also advocate the dilution of loads in order to achieve compliance with parameters on the discharge consent. The chemists contrasted their view on waste dilution with the view of the head of the sales staff. According to the chemists, the dilution of waste loads in order for them to be accepted could not be reconciled with a professional chemists' view of what the waste treatment of waste actually implies. The chemists described the attempts of the head of the sales staff to take in loads which the plant could only treat by dilution as 'bending the rules'. A similar conflict between the sales staff and the technical staff seemed also to exist at the landfill site operated by the U.K. waste treatment plant. According to one of the technicians:

'there was a bit of a clash of interest between the sales people and the technicians'.

Conclusion

At the U.K. treatment plant, different work groups such as the sales staff and the chemists had different attitudes towards decisions on taking waste loads into the plant. In my view these different approaches were linked to the different tasks and aims of those two work groups. Hence, different work groups could give rise to

different norms for making decisions about the rejection or acceptance of waste loads into the plant. Standards which arose in the connection with work group norms could mediate what was understood as legal requirements and have an impact on the implementation of site licence provisions in practice. Now let us look at what impact, if any, work group norms had at the German waste treatment plant on the implementation of legal requirements.

6.3. Work group norms at the German waste treatment plant

No separate sales force

At the German waste management plant there was no separate sales force. According to the plant manager, there was until recently no need for the active marketing of the services of the waste management plant through a separate sales force. There was even a shortage of disposal capacities for hazardous wastes in Germany (Bernstorff, 1993: 10). This is in contrast with the U.K. situation where so far there seems to be no shortage of disposal space. In fact the U.K. imports waste from other countries. According to a customer of the German waste management plant, before the recession waste holders had to wait for quite a while before they could bring their wastes into the plant. While I was at the German waste management plant, the recession started to have an impact on the amount of waste coming into the plant. Some marketing efforts were then made, mainly by the managing

director and the technical manager. Though there was no separate sales force at the German waste management plant other work groups did have an impact on the implementation of legal requirements.

Other work groups at the German waste management plant

At the German waste management plant the main groups of staff were the office staff, the employees working on the yard, the employees from the treatment plant and the laboratory staff. These staff groups worked in different parts of the plant and contact between them was quite limited. Different sections of the plant would know little about the way other sections of the plant worked. How did these different work groups influence the implementation of legal provisions?

6.3.1. Different norms at the yard and in the office: the implementation of the "EN" procedure

The "EN" procedure

Different interpretations of legal regulations by different work groups came to play a role at the German waste treatment plant. In order to explain this, it is necessary to outline the procedure for the designation of wastes to certain waste disposal facilities. The German "TA Sonderabfall" regulations apply to hazardous wastes as defined in _ 2 Abs.2 AbfG 1986. According to these regulations hazardous waste streams are recommended to go to certain types of waste disposal plants. In theory the

waste holder is not completely free to decide for himself where he will dispose of his waste. For example, waste streams such as paint wastes ("Lack- und Farbschlamm") would be recommended as first priority to go to high temperature, special waste incineration and then as a second possibility to household waste incineration ("TA Sonderabfall", Anhang C). The provisions of the "TA Sonderabfall" are advisory only and not binding. But in practice the way the RA for the German waste treatment plant handled this, was that the waste holder had to provide convincing arguments to the RA if he wanted to deviate from the recommendations of the "TA Sonderabfall".

The determination of the disposal path for a particular waste stream is carried out through a paper procedure, called the "EN". In the German waste treatment plant a group of staff dealt with this paper procedure on behalf of the waste holders, the customers of the plant. The staff had to elicit information about the wastes from the customers in order to classify the waste into one of the waste codes through which wastes are officially described. The waste then had to be assigned to one of the waste disposal plants that the "TA Sonderabfall" recommended. Finally the filled in "EN" form was submitted to the "RA" for authorization. Thus, through the "EN procedure" the actual waste loads arriving at the treatment plant were assigned to a specific final waste disposal plant. Different work groups were involved at

the German waste management plant in the implementation of this paper procedure in practice.

Different work groups operate differently the "EN" procedure in practice

The staff in the office operated the official version of the "EN" procedure. But in practice the staff on the yard were also involved in the implementation of the "EN" procedure. The staff on the yard directed the actual waste loads arriving at the plant to the storage area. From there the waste would be transported to final disposers. The waste loads arriving on the yard often did not conform to the description given of the waste on the "EN" paper form. This could mean that the waste load could not go to the final waste disposal site that was specified on the "EN" form. In practice the foreman on the yard then directed waste loads into a different waste disposal plant. This was a problem since under the legal provision of the authorized "EN" the waste had to go to the waste disposal plant specified in the "EN". The plant tried to deal with this by having more than one "EN" issued for one waste stream or by declaring a waste stream to be a different type of waste stream which could go to the particular waste disposal plant. In the following section I want to look in more detail at the different ways of decision making in the office and on the yard.

Different work groups have different ways of dealing with the "EN" procedure

The decisions made in the office on the "EN" paper procedure for the allocation of a final disposal plant and the decisions made by the foreman on the yard were guided by partly different considerations. The two groups of employees in the office and on the yard had little contact with each other. The office staff were located in a building away from the yard. They never saw the waste loads. They did not know what the waste really looked like and what its actual composition and texture was. One of the office staff recognized this as a difficulty when assigning waste streams to disposal plants. He suggested that staff from the office should be required to spend some time at the yard in order to get to know what the waste loads looked like in reality. One employee called their assignments of waste to final disposal sites a "lottery game". Also there was no feedback from the yard to the office when waste loads were rejected or re-routed to different disposal plants, so that information about the actual composition of waste loads could be taken into account for future decision - making in the office.

In contrast to the office staff, the foreman at the yard knew exactly what the waste looked like since most of the waste containers were opened and checked on arrival under his supervision. He decided on the basis of criteria which were to some extent different from those of the office staff into which waste disposal facility

waste should go. The foreman would take into account what the "real waste" looked like. Thus, he would know that different waste loads from a single waste stream could vary. He would also know from experience what sort of loads a final disposer would accept or reject and he would assign waste loads accordingly. In contrast to this the staff in the office did not really know the waste from experience and they were operating with formal acceptance parameters for final waste disposers as provided on paper forms.

The foreman would also consider when assigning waste loads to final disposers that at some landfill sites samples of waste loads would be seldom taken. Hence acceptance parameters imposed by final disposers could be handled in a flexible way. The foreman would also take into account practical considerations like the coordination of waste vehicles. Sometimes there was already quite a lot of a waste which was to go to a particular final disposal site stored at the German waste management plant. In that case it would make sense to assign further loads for that disposal site. Then a vehicle could be ordered to transport the whole waste load to a final disposer. A further example for different criteria used in the process of dealing with the "EN" procedure is the following.

The office group who handled the "EN" procedure and the employees on the yard imposed on waste producers different formal standards for the implementation of

legal requirements. On the "EN" the staff from the office group requested that the waste loads delivered to the plant had to conform to the waste description which was determined when the waste stream was submitted initially for analysis. This condition repeated a requirement from the site licence.

On the yard, however, the waste was checked for acceptability to final waste disposers, not for its conformity with the description given on the "EN" by the waste holder. It was also practically not possible to check conformity between the initial waste description and the arriving waste on the yard since the "EN" itself was kept at the weighbridge. It was usually not seen by the foreman on the yard and his laboratory technician assistants who checked the loads. Thus, they did not know how exactly the waste was described. They could, however, phone the weighbridge and check in this way the "EN". This was done in some cases.

Also, the German waste management plant had an internal list which contained all the different waste codes and all the possible final disposal paths which the German waste management company could provide. Since contracts expired or final disposers declined to take in certain loads again the list changed frequently. But updated versions of the list were not always available on the yard. Thus, the office and the yard were partly working on the basis of different standards.

Conclusion

In this section I tried to show that there were different work groups at the German waste management plant which had different approaches towards the handling of wastes. An important issue here was the relationship between the yard and the office. The different outlook of these two work groups had an impact on the implementation of the "EN" procedure. The "office" and "the yard" had different standards for handling the "EN". These different standards arose out of the fact that the office staff knew only the "waste on paper" whereas the employees on the yard had first hand experience of the "real waste". For the implementation of legal requirements, however, not just the relationship between the office and yard staff seemed to be important but also the relationship between the staff from the chemical laboratory and the staff working on the yard.

6.3.2. The relationship between the chemical laboratory and the operations on the yard

Two work groups: women in the chemical laboratory and men on the yard

Divisions between the chemical laboratory and the people working on the yard were much more pronounced at the German than in the U.K. plant. In the German plant there was a clear gender division between the laboratory and the yard. At the U.K. waste treatment plant there were only male employees, both in the laboratory and on

the yard. The laboratory staff and the employees from the plant shared social facilities like the mess room and had breaks together.

In contrast to this the German laboratory consisted of a close-knit group of young women. On the yard of the German waste management plant only male employees worked. At the laboratory entrance door the women had put up a hazardous waste warning sign. On the sign the name for hazardous waste had been crossed out and "women lab technicians" had been written over it. Male employees from the yard who came with inquiries into the laboratory were sometimes dealt with as intruders. Their inquiries were dealt with not always in the most friendly manner and they were discouraged from hanging out in the laboratory. There were also separate messroom facilities for the laboratory staff and the employees on the yard.

"Professional standards" in the laboratory of the German waste management plant

The female laboratory technicians saw themselves as more professional than the male staff working on the yard. On the yard there were two male laboratory technicians who assisted the foreman with the testing of incoming solid waste loads. One of the laboratory technicians remarked about the testing regime operating on the yard:

'On the yard basically everything goes by appearance. They do not conduct any further tests there'.

Furthermore the deputy laboratory manager told me that sometimes the laboratory would get quantities of effluent from the treatment plant that would be larger than the amount of waste loads the plant would have received during a day. According to her, one explanation for this might be that the staff in the treatment plant were diluting the effluent with tap water down to discharge consent limits. This was contrary to the provisions of the site licence which required the treatment plant only to take in such waste loads which it could treat down to discharge consent limits. The deputy lab manager criticized the fact that the lab staff had been told by the management that they were not to question such issues. The professional self-image of the laboratory technicians, however, still included an awareness of commercial aims of the plant.

The laboratory staff considered it as important that loads were accepted into the plant. They handled standards in a flexible way. However they seemed to be less concerned about pulling in waste loads than the office staff or the staff on the yard. The deputy laboratory manager explained that the laboratory staff perceived limits to what they were prepared to do in order to realize commercial aims of the plant. This seems similar to the differences between the head of sales and the chemists at the U.K. plant. This is further illustrated by the following story.

One morning - during the tea break at the German waste treatment plant where both employees from the office and the laboratory were present - a waste load that was taken into the plant the previous day was discussed. This load had a high content of ammonium. According to the laboratory staff, the load might have been accepted into the plant - behind their back - by one of the laboratory technician assistants from the yard. The laboratory technicians argued that the ammonium level was so high that it would be impossible to treat out the metals properly. But the load had come on an authorized "EN". The deputy laboratory manager criticized the fact that the RA would allow such unsuitable loads to come into the plant. The office employee explained that in this case the RA might not have known about the high level of ammonium in the load since they might not have asked for this parameter. The office employee said that they would only give that information from the chemical analysis to the RA which the RA asked for. The deputy laboratory manager was perplexed. Apparently she had not known before that the office would sometimes only pass on some and not all of the information from the analyses of the laboratory provided. Thus, different work groups had a different approach towards the handling of information from analyses.

Conclusion

There were different approaches towards the testing and the rejection of loads by the staff from the chemical

laboratory in the German waste management plant and the staff working on the yard. The staff from the chemical lab distinguished themselves from the staff on the yard through a professional self-image, and seemed to be less concerned with pulling in waste loads than the staff on the yard and in the office. In the next section I want to look briefly at the question how such work group norms for handling wastes would arise at the German waste management plant. In the next section I want to look briefly at the question how such work group norms for the handling of waste would arise at the German waste management plant.

6.4. Learning work group norms

As outlined in the previous section work group norms were important at the plants for the handling of waste. They were an aspect of staff being socialized into life at the plants. Thus, work group norms could be learned. This became particularly clear among the group of office employees who handled the "EN" procedure in the German waste management plant. One of the employees had recently joined the company and sometimes asked his colleague how to deal with certain tasks when processing "EN" applications. Part of the job of the staff who handled the "EN" procedure was to get the "ENs" authorized by the RA. Therefore a skill in the job that could be learned was to figure out what the RA wanted to see on those forms in order to adapt the processing of the forms accordingly. What arguments was the RA likely to accept,

what sort of information would be rejected as insufficient etc.?

One day the new employee asked his colleague how to deal with a waste that was to go to incineration. The waste had been chemically analyzed by the laboratory in order to check if it could go to a landfill site but the amount of solvents in this waste load was too high. For the German waste management plant this would have been the preferred option because it was cheaper. The German plant was allowed by the RA to dispense with a chemical analysis for the waste code that applied to this waste load. Normally waste loads under this waste code were too heterogeneous to be chemically analyzed. Therefore waste holders were excepted from analysis requirements. Usually waste under this waste code would go to landfill. But in this particular case the solvent level was too high for this. The problem was how could the employee justify to the RA that the waste could not go to landfill as normal but had to go to incineration? He could not use the chemical analysis that showed that the solvent content was too high because the German plant had always argued that it was not possible to conduct a chemical analysis of this waste. This was the basis on which the plant had been permitted by the RA to dispense with the analysis requirement. The colleague recommended trying to get the "EN" authorized by the RA and simply request a disposal path for incineration without adding the analysis to the "EN". The new employee should wait and see if the RA

would require extra information to support the proposal by the plant that the waste should go to incineration instead of the usual disposal path to landfill.

Situations like this would occur from time to time in the office. The new colleague would be socialized into the ways of how best to deal with the RA and the customers. Sometimes this would also include advice on how to best manage requirements from legal regulations. For example, the new employee learned that for the "Sammel-ENs" no actual analysis would be conducted but values for certain parameters would be entered on the "EN" form that would just be below the required parameters from the final disposer.

Knowledge of legal requirements

When trying to understand how work group norms were constituted and how they mediate perceptions of legal requirements it is important to look at the question how much knowledge employees had of site licence requirements. If the staff at the plant did not know much about site licence requirements then work group norms might fill easily a vacuum of lack of detailed knowledge about legal requirements. The site manager of the U.K. treatment plant told me that he felt that he did not get enough training on legal matters. At a U.K. landfill site - run by the same company which operated the treatment plant - a sales person told me that the sales staff felt that on the whole they did not receive enough training on

legal regulation. Also, the site technician complained about the fact that they did not get sufficient training on legal regulation although in his view this was directly relevant to his work.

Knowledge of site licence requirements

Some operators did not seem to know what the standards were they were supposed to comply with. For example, a site manager reacted surprised when a U.K. waste control officer told him that the site licence required him to provide analyses of new waste streams coming into the plant. A new site manager had been temporarily placed at one U.K. waste storage site after there had been lack of implementation of legal requirements there. The company had even been criminally prosecuted by the RA. Criminal prosecutions were only considered as the last resort by the RA. The new site manager explained to a U.K. waste control officer who had come for a site visit that his specific task was to deal with the problems of waste handling that existed at the site. During the visit the waste control officer found that waste loads were still stored on areas at the site which were not licensed for the storage of waste. It was precisely this that had led to the prosecution. The waste control officer drew the site manager's attention to this. The site manager asked which area was licensed for storage. This was indicated on the site licence. Hence, apparently the site manager who had said that his task

was to sort out the 'non-compliance' problem at the site had not read the site licence.

Also, waste hauliers would not necessarily know what wastes the U.K. treatment plant could take in according to its site licence. Sometimes hauliers would suggest bringing in wastes which the plant was not allowed to take in. One day the chemist rejected a waste sample that had come in for an analysis to test if it could be taken into the plant. The chemist just read the general waste description on the sample jar and then wrote 'reject' on the accompanying form. He said:

'If they can't be bothered to read what is on our site licence then we'll just reject it'.

The sales staff do not necessarily know the site licence

The sales staff at the U.K. treatment plant would not necessarily know what waste could be taken into the plant under the site licence. One evening the sales representative brought in a sample of an organic waste load and asked if this could be taken into the plant. From the site licence it was clear that only inorganic, not organic, acids could be taken into the plant. Once a sales representative sent a solid waste sample to the lab. It was clear from the technology of the plant and its site licence that it could only deal with liquid wastes.

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Knowledge of legal provisions at the German waste treatment plant

At the German waste management plant there was partly limited knowledge about relevant legal regulation. For the work of the chemical laboratory the guide-lines under the "TA Sonderabfall" on the assignment of certain waste groups to certain types of waste disposal plants was important. This was because the laboratory made decisions on the assignment of waste streams to certain disposal plants. There was not, however, a copy of the "TA Sonderabfall" regulations in the laboratory. Also, among the four office staff who were involved in assigning waste streams to certain waste disposal facilities only one had privately bought himself a copy of the relevant "TA Sonderabfall" regulations.

Also, a copy of the site licence for the German waste management plant was only in the office of the technical manager of the plant. Thus there were no copies in the laboratory, the office or the treatment plant. The site licence contained, however, the detailed requirements for example on the testing of incoming waste loads.

Conclusion

Some staff at the waste management plants both in the U.K. and Germany did not know much about the legal provisions that could have an impact on their work. Such a lack of knowledge of these provisions might influence

what role legal provisions would play in the creation and management of standards for the handling of waste in practice.

6.5. Conclusion

In this part II of the thesis I explored the question what are standards in practice for the handling of waste at the waste management plants. How could such standards mediate what was understood as legal requirements in practice? In this chapter 6 I discussed the question what impact work group norms have on what becomes understood as standards for compliance. In particular, I explored the partly different work group norms of the chemists and the sales staff at the U.K. plant and the impact this had on decisions about the rejection of waste loads. At the German plant it seemed particular the relationship between the staff in the office and the staff working on the yard that influenced how the "EN" procedure was handled.

The role that work group norms play in the handling of legal provisions shows that standards for compliance can not be determined in abstract. Instead standards in practice develop also in response to the organizational context in which waste is dealt with. These were here various work groups with different tasks, such as the chemists and the sales staff. The impact that work group norms might have on what becomes understood as legal requirements in practice also illustrates that "norms"

for behaviour are not pregiven but develop with reference to their organizational contexts. Furthermore these "norms" are not static but are subject to negotiation and re-negotiation, and hence dynamic. This is for example illustrated by negotiation between the sales staff and the chemists at the U.K. plant.

CHAPTER 7: STRATEGIES FOR MANAGING STANDARDS

7.1. Introduction

In this chapter, I will describe strategies used by the regulated to deal with different standards. As illustrated in chapters 4,5 and 6, various standards operate at the waste management plants. Different standards might be in conflict with each other. For example, legal provisions might require the employees to handle waste in a particular way but commercial aims might suggest a different course of action. How would such tensions be solved? This raises the issue of how potential social control exercised by different standards could be managed. In particular, how would potential social control through legal requirements be handled?

In the first section of the chapter, I will discuss how official waste descriptions are used in order to manage legal provisions. In the second section, I will discuss the strategy of diluting waste loads. In the third section, I will describe various forms of cheating to manage legal provisions, as well as the technique of widely applying exceptions to regulatory requirements widely.

7.2. Managing official waste descriptions

Both in the U.K. and Germany, official waste descriptions are used to describe waste streams. For example, the official waste description "paint waste"

(waste code: R80 in the U.K./DoE Circular, 55/76, May 21/1976) or "Lack- und Farbschlamm" (waste code: 55503 in Germany), describes waste from painting operations. In the U.K., the DoE catalogue lists waste descriptions with the corresponding waste codes. This is quite similar to the German "LAGA" catalogue which also lists waste streams with their waste codes (in German: "Abfallschlüsselnummer"). This "LAGA - catalogue" describes what is defined as waste under the objective definition of waste according to § 1 (1) AbfG 1986. As in the U.K., the different groups of waste in the "LAGA - catalogue" are sometimes difficult to differentiate and partly overlap ("TA Sonderabfall", Anhang C; 1992:142).

The foreman at the German waste management plant pointed to empty containers which held paint residues. He told me that the waste holder had classified this waste under the "LAGA" - catalogue as "empty containers". But in his opinion it could have been equally well classified under the category "paint residues". These official waste descriptions are important because the legal regulations concerning waste management refer to regulated wastes. For example, in the "EN" procedure in Germany, waste streams would be described through these official waste definitions. Both in the U.K. and Germany, site licences described the kind of wastes which a plant was allowed to take in through the official waste definitions. Also, the German "TA Sonderabfall" regulations partly refer to these waste descriptions.

Waste descriptions have developed through general usage in the industry and have finally become part of the legal regulations for waste management. Thus the official waste descriptions are not just "legal" categories but their origin lies in the practice and customs of describing wastes as developed by the waste management industry ("TA Sonderabfall", Anhang C, 1992:140). Hence what has become an important element in the legal regulation of waste is the result of an integration of industry customs with formal classifications of legal relevance.

Managing site licence restrictions on the range of wastes a site is allowed to take

Official waste descriptions could assist in the manipulation of legal regulations. At the U.K. waste treatment plant, a load rejection procedure operated (see chapter 4, section 4.2.2.). According to the site licence, waste loads which the plant was not allowed to take under the list in the site licence were to be rejected. Also, loads which the plant could not treat were to be rejected (conditions 2 and 3). In practice, waste descriptions like "yard waste" and "contaminated water" could be used to manage these criteria for the load rejection. "Yard waste" and "contaminated water" were items on the list which the U.K. treatment plant was allowed to take. It seems that in practice under these waste categories, any kind of waste could be brought into the plant, as long as it was accepted by the chemists.

One day a tanker arrived at the yard of the U.K. treatment plant. The driver brought a sample of the waste load into the laboratory for testing. After some time the driver came back to the laboratory and asked if the waste had been accepted. He added:

'Well, otherwise we will bring it back as yard waste'.

The U.K. waste management company operated another waste treatment plant which mainly took in waste oils. The site licence for this site stipulated that, among other wastes, the plant could take the following:

"effluent sludges, interceptor wastes, including oil, containing silt and muds".

The site chemist commented on this:

'This can be anything, really'.

Also, a German waste control officer told me that broad waste codes in the site licence would allow a waste management facility to take in waste streams which they could not take in under any other waste description. According to the technical manager of the German waste plant, it became more and more difficult to find appropriate descriptions for waste streams because the German waste descriptions became increasingly specific so that mixtures of wastes would have to be separated out and assigned different waste codes. The technical manager explained to me that this problem could be overcome by describing waste streams under the general waste code of "solid, oil and grease contaminated working materials".

Managing the definition of special wastes

Waste codes could also be used in practice to manage legal controls that apply to particular waste streams. For example, by calling a waste load "yard waste" the application of the U.K. Special Waste Regulations 1980 might be avoided. Under § 2 (2) AbfG 1986 a list of special wastes has been drawn up and particular legal requirements apply to these wastes. These special wastes are described through official waste descriptions. Hence, by assigning a particular description to a waste stream the German waste management plant could to some extent determine if it would fall into this list of special wastes or not. The scope of control over wastes - to which special legal requirements apply - was in practice not necessarily determined by the legal regulations but by the interpretation of the scope of waste descriptions by the chemists. According to the deputy manager of the chemical laboratory:

'the definition of the wastes to which special supervision requirements apply is stupid. You can turn and twist it as you like it'.

The official waste descriptions could not only help to manage the definition for the list of special wastes but could also help to manage the German legal provisions for the assignment of waste to particular waste disposal facilities.

Waste codes can help to manage the German legal provisions for the assignment of wastes to particular waste disposal facilities

The official description of waste streams could also assist in managing the German legal procedure for the assignment of wastes to a final disposal facility under the "TA Sonderabfall". These guidelines on the choice of final disposers could be strategically managed by the waste producer or the waste management plant. The waste producer or the waste management plant had some discretion in deciding under which description a particular waste should be classified. According to the German laboratory technicians, almost every waste sample could be classified under two or three different waste codes. For example, the German waste management plant handled a waste load which consisted of cloth strips and which had been used in an air filter. This waste load was first assigned the description "filter cloth with noxious contaminants" (in German: "Filtertücher mit schädlichen Verunreinigungen"). Later this waste description was changed by the chemists and the same load was described as "solid, grease-contaminated and oily work materials (in German: "feste, fett- und ölverschmutzte Betriebsmittel"). The waste description was changed in order to be able to bring the waste to a landfill site that could accommodate this type of waste.

For the RA it would be quite difficult to get an accurate perception of the waste stream on the basis of its description in the "EN" paper procedure. For example, the waste management plant initially described initially a waste stream as "solid, grease and oil-contaminated

work materials", but later it was decided that the same waste stream should be described as "work materials, containing solvents". The RA would not have much opportunity to query the application of particular waste descriptions to certain waste streams. It was the waste management plant which classified waste streams under certain descriptions. It was staff at the plant, not the RA, who would see and analyze the waste. Unless there were obvious discrepancies between the chemical analysis of the waste submitted on the "EN" and the official waste description, the RA would not have much ground on which to query the description of a particular waste stream. Furthermore, the volume of "ENs" which the RA had to process would render it unlikely that it would question a waste description.

According to the staff in the German chemical laboratory, the majority of wastes, which were proposed for the plant had already been assigned a waste description by the producer or haulier. This meant that they could express in some cases a preference for a certain disposal path through which he would assign a waste description to his waste. This might have enabled a waste producer or haulier to take into account commercial issues like the differential costs of waste disposal at landfill sites and incineration. One day a waste holder inquired at the plant about the disposal of "oily working materials". One of the employees in the office commented on this case:

'If we want to bring it to landfill we could classify it under "empty containers - contaminated"' (in German: "Emballagenverunreinigt").

Hence, in some cases, the legal guidance from the "TA Sonderabfall" was applied in reverse mode. While the "TA Sonderabfall" seems to envisage that wastes should go to certain disposal plants because they would come under a certain waste description ("TA Sonderabfall", Anhang C; 1992:142,143), in practice waste streams would sometimes go to the disposal plant chosen by the waste management plant or the waste holder by assigning it a certain waste description. Thus, social control from the legal regulations could be managed and partly avoided. The waste management plant was still able to some extent to bring the waste to final disposers of their choice and at the same time to "comply" with guidance from the "TA Sonderabfall". The way the computer system was set up in the laboratory of the German waste management plant also helped to apply the legal provisions of the "TA Sonderabfall" in reverse mode.

The computer system

The computer system which was installed in the German laboratory facilitated the process of working backwards from the legal guidance from the "TA Sonderabfall" backwards. This computer system listed all the final disposers. For each disposer it showed the range of waste descriptions he was licensed to take in. The plant or the customer might already have a certain preference for a particular final disposer, for example,

on the basis of price or the availability of disposal capacity. Thus, when assigning a description to the sample, the computer system could help to assign a waste code on the basis of the choice of a final waste disposer. The chemists could enter the names of disposal sites into the computer and then check what waste codes these different disposal sites were allowed to take. Thus, the computer system could further help to manage social control over the assignment of disposal paths for waste streams. The example of the computer system also shows that ways of managing legal requirements could not be just distinct acts nor the result of particular decisions, but could become entrenched in day to day work practices of dealing with waste. There were, however, also limits to the flexible use of official waste descriptions.

Limits to the flexible use of official waste descriptions

According to the office supervisor at the German plant, the fact that the waste descriptions could be interpreted in a broad way meant also that each final disposer could have a different view on what waste to expect under the description. Thus final disposers might reject loads from the German waste management plant despite the fact that they were consigned under a waste code which the final disposer could take. Hence, the need to operate a system of waste descriptions which would also be understood and accepted by the final waste

disposers mitigated against the arbitrary use of waste codes and hence restricted discretion in their use.

A further constraint on the flexible use of waste descriptions was the risk that final disposers would notice discrepancies between the description and the actual waste. For example, a waste holder had applied to the German management plant to have his waste disposed of. The waste was described as "saw dust, contaminated with heavy metals". The staff in the office of the German waste management plant first considered disposing of the load through a "Sammel-EN". Under the "Sammel-EN" less paperwork had to be prepared. Therefore this would normally have been the preferred option. Under the "Sammel-EN" various similar waste loads were mixed and disposed of together. But finally the staff decided against this because they suspected the metal contamination in the saw dust to be rather high. Thus, in case the final waste disposer would take a sample and find metal contaminations above what the plant had described, it was finally decided not to dispose of the waste through the "Sammel-EN".

Conclusion

A central aspect of the regulation of waste management is that legal regulations apply to waste as it is officially described through standard terms. The waste management plants and waste producers have discretion in applying descriptions to particular waste streams. Thus

the plants were able to some extent to manage legal regulations for wastes. Social control through legal regulations over waste management could be partly avoided and commercial aims could be taken into account when describing wastes. For example, the German plant was able to "comply" with the "TA Sonderabfall" guidance on sending certain waste streams to certain disposal paths and to realize their commercial aim to send as much waste as possible to landfill.

The manipulation of legal regulations through the flexible application of standard descriptions is specific to waste. An important characteristic of waste regulation is that those who are subject to regulation, i.e. waste management plants and waste producers, have a monopoly of information about the waste. Their descriptions of the waste can influence sometimes what legal regulations apply, if any at all. For a more detailed discussion on the relevance of information for what becomes understood as compliance with legal regulations in practice see also chapter 10 and 11. It is also specific to waste descriptions that they are difficult to carry out accurately. Waste, by its very nature, is a heterogeneous product which is difficult to describe and can be usually described in various ways depending on sampling techniques. This suggests that waste regulation poses specific issues for the management of social control through legal regulations which might not necessarily apply to other areas of regulation.

7.3. Diluting waste loads

A strategy for managing the legal provisions of the discharge consent - both at the German and the U.K. waste management plant - was to dilute waste loads. This could enable the plant to do two things at the same time. Firstly, through diluting waste loads, the plant could take in problematic loads which otherwise it could not treat down to discharge consent limits. Secondly, and at the same time, the plant could observe the limits on the discharge licence. Thus, to some extent, the waste treatment plants could avoid restrictions on the wastes coming in. This is illustrated by the following quotation from a proposed working plan of a U.K. waste treatment plant:

"Where waste streams are accepted into the plant but could cause a problem by exceeding our consent limits to either [the water company] or landfill sites the procedure is as follows: The waste is offloaded via a closed discharge line into either ST [storage tank] 9 or ST 10. This gives us the facility to 'bleed' waste into the treatment tanks at a rate determined by the lab to ensure that, when treated and dewatered, both the filter cake and the effluent are within the limits of the consent".

Hence, the practice of diluting waste loads could operate on two levels. On the one hand, it could be an informal practice at the waste treatment plants. On the other hand, it could be part of the legal standards through the incorporation into the working plan of a waste management site which formed part of the site

licence. Thus, formal legal standards could provide their own mechanism for overriding them.

7.4. Cheating

Hiding waste at a transfer station

Another strategy for dealing with different standards could be cheating. A U.K. waste control officer showed me that at one waste storage facility, waste was effectively hidden from view behind a corrugated iron wall. The waste control officer said that it took him 12 months before he discovered that in this space waste was stored. There was only a very narrow opening through which one person could squeeze into this storage area. Waste was stacked up so tightly and high that there was not enough space to inspect the drums, for example, for leakage. Sufficient space for inspection, however, was required under the site licence. At the German waste management plant, strategies for cheating could also relate to the testing procedures for waste.

Cheating in analysis requirements

In most cases a sample of a waste stream for which an "EN" had to be authorized was submitted to the German plant. The laboratory would then analyze the waste for the acceptance parameters of final disposers. For example, if the waste was to go to landfill site A then the laboratory would analyze all the parameters that this landfill site had specified as its acceptance parameters.

In most cases the values for these parameters would then be entered on the "EN" form.

But in some cases the staff in the office of the German waste management plant would in a few cases adapt the information provided on the analysis sheets to what the chemical parameters would have to be. Thus, on paper, the waste would conform to the site licence requirements of a final disposer.

Changing waste descriptions on the "EN"

Sometimes the office staff, with the agreement of waste hauliers, changed information on the "EN" that was to be submitted to the RA. For example, a waste stream had been described first as "flammable" and was supposed to go into incineration. This was then changed to assign the waste to landfill. This change was only possible if the description of the waste was made to be "non-flammable". Thus on the "EN" the description of the waste was changed from "flammable" to "non-flammable". Also the supervisor of the German waste treatment plant told me that in some cases a waste load could not be taken in, according to the acceptance parameters for the treatment plant. But it would be possible to take in the load by adjusting the parameters for the waste loads on the analysis form, so that they would correspond to the acceptance limits. Sometimes analyses were invented at the German waste treatment plant.

Analyses from the laboratory and from the treatment plant

A sample of effluent that was to go to the sewer after treatment was usually given to the laboratory. The laboratory would then analyze this sample for conformity with the parameters on the discharge consent. The actual values found in the sample would be written on an analysis sheet which the treatment plant staff picked up from the laboratory. While I was in the treatment plant I observed that in some cases certain parameters were over the limits of the discharge consent. Sometimes the treatment plant staff would then enter a value on a new analysis sheet that would be below the required limit. The analysis sheet from the laboratory was then thrown away. By looking through the analysis sheets filled in by the treatment plant, one would have the impression that they always complied with the discharge consent. In fact, the actual effluent discharged might not always have conformed. Another type of invented analyses were what was called in the German office "self-knitted" analyses.

"Self-knitted analyses"

In the office of the German waste management plant some "ENs" were processed without an analysis of the waste stream being available. A waste disposal path was assigned by the office staff through the "EN" form which had to be authorized by the RA. In order to make a decision about what final disposer should take the waste stream a chemical analysis of the waste was necessary

according § 8 (1) AbfRestÜberwV). In some cases, however, the staff assigned a disposal path for the waste only on the basis of the general description and the information about the production process from which it originated. Then assumed values were entered into that part of the "EN" form which asked for the values from the chemical analysis. These kinds of values were described by the office staff as "self-knitted" (in German: "selbstgestrickt") or an analysis for which they had "thrown the dice" (in German: "gewürfelte Analyse").

Particularly on the "Sammel-ENs", assumed values were written in to the chemical analysis section which were just below what the final disposer would require. According to the office staff, it did not make sense to provide a chemical analysis of the waste since the composition of waste loads would change according to the route the waste haulier would follow during his waste collection. One day the haulier would collect waste from four different producers and on another day he would collect waste from five other producers. Thus the composition of waste streams delivered by the haulier to the German waste management plant would differ considerably. This was despite the fact that the waste was consigned under one common description. On another occasion the RA had sent back an "EN" that the waste management plant had submitted for authorisation. The RA said that the sum of metals for this waste stream would need to be smaller than 50 mg/l. The office staff dealt

with this by writing into the analysis section of the form for the metal content "< 50 mg/l". The "EN" was then resubmitted to the RA. Another type of shortened analyses were "quick ENs".

Quick "ENs"

In case an "EN" had to be processed very quickly values would be sometimes entered on the "EN" form without a chemical analysis being available for the waste stream. In such a case an "EN" that had already been authorized by the RA for the same official waste description was looked up in the files. Then the form, including the parameters for the chemical analysis, was copied onto the "EN" form for the new waste stream. To the RA this form would look accurate and in itself coherent although the actual waste stream might have been different from the way it was described on the form.

Deducting values for analyses

Another way to cheat in analysis requirements was to try and deduct values for chemical parameters from already existing information from a chemical analysis of the waste. In some cases the RA wanted more information about a waste stream. In this case the office staff used to phone up the laboratory manager and ask if the chemical parameters that the RA had asked for could not be deduced from the already existing information about the waste. This procedure would avoid the need for a new sample, for an analysis of the waste would have to be

required from the customer. Thus further costs could be saved for the customer in connection with the analysis of the additional parameters the RA had asked for.

Conclusion

One way of managing legal requirements for the testing of waste could be to cheat in analysis requirements. Analyses for waste were provided in Germany on the paper form of the "EN". This made it difficult for the RA to detect possible shortcomings in the way the plant handled analysis requirements. On paper "formal compliance" could be maintained while at the same time the plant was able to take in wastes which it might not be allowed to take according to the site licence or discharge consent, or about which it did not know if they could taken. Hence, cheating in analysis requirements as described in this section could provide an integration of commercial aims, such as the acceptance of waste loads, and the need to demonstrate on paper to the RA "formal compliance" with acceptance criteria or discharge limits. Apart from cheating, another way of managing standards was to widely apply exceptions granted by the RA to regulatory requirements.

7.5. The wide application of exceptions to regulatory requirements

The "Sammel-EN" was an exception to the normal "EN" procedure. The staff at the German waste management plant tried to apply this procedure as widely as possible.

According to the "Sammel-EN", smaller amounts of waste could be collected by hauliers and made into larger loads (§ 10 (1) Nr.4 of the AbfRestÜberwV 1990). One large load could be processed through one "Sammel-EN". Under the "Sammel-EN" less paperwork had to be prepared. According to the staff in the German office, it was an easier way of operating the "EN" procedure.

Since the waste loads collected were a mix of different, though similar, wastes, the descriptions of them were quite general. Typical waste classifications used for these "Sammel-ENs" were for example "plastic containers with noxious contaminants" (in German: "Kunststoffbehältnisse mit schädlichen Restinhalten") "mixture of alkalines" (in German: "Laugen, Laugengemische") etc. A considerable advantage of these "Sammel-ENs" was that the RA did not require a chemical analysis for some official waste descriptions. Thus, the waste holder saved the costs of a chemical analysis. These waste loads would be assigned to final waste disposers simply on the basis of the general description. Thus, if the final disposer was allowed to take waste under that official description then the waste would be assigned to this plant. With the full "EN" it would have to be checked, on the basis of a chemical analysis, to see in addition if the waste complied with the acceptance parameters of the final disposer. For some of the waste loads, which were to be consigned on "Sammel-ENs", the office staff would simply insert on the "EN" form values

that would be below the parameters that the final disposer had spelled out as acceptance standards.

7.6. Conclusion

In the previous chapters of this second part of the thesis, I have outlined the contexts in which the implementation of legal requirements occurs at the waste management plants. These contexts can have an impact on what is understood as legal requirements in practice. What I wanted to show in this chapter is that various constraints and requirements concerning the behaviour of the regulated are not static but can be manipulated in practice. They can be handled in a dynamic way. Thus, behaviour was not determined by what became understood as requirements in practice but to some extent requirements would be handled in a flexible way. This means that the kind of social control that might be exercised by legal requirements over what the regulated do cannot be defined in the abstract but depends on the practical circumstances of the particular implementation situation. Some of the behaviour at the plants which I described in the previous chapters is behaviour which remains below the threshold of what comes to the attention of the RA. The regulated can manage the social control of legal requirements because sometimes the RA has little information about what is happening at a plant. In the following part of the thesis I want to look in more detail at the relevance of interaction between the regulated and the regulators for managing social control,

and hence for defining what constitutes compliance in practice.

PART III: INTERACTION BETWEEN THE REGULATED AND THE REGULATORS AND COMPLIANCE

Outline of Part III

In the first section of part III of the thesis (chapters 8 and 9), I will look at the question of how the meaning of regulatory requirements is negotiated in the interaction between the regulated and the regulators. In the second section of part III (chapters 10 and 11), I will deal with the question of how and what the regulated get to know about the waste management plants. How does this influence what becomes understood as compliance in practice?

CHAPTER 8: ADAPTING STANDARDS FOR COMPLIANCE AT THE STAGE OF SITE LICENSING AND IN THE FIELD

8.1. Introduction

An important question for understanding legal compliance is "compliance with what"? In theory a major source of standards for legal compliance is the site licence of a waste management facility. What are the standards in such licences? To what extent are these abstract legal standards? To what extent do they draw on existing social practices of handling waste at waste management plants? My field data show that another source of standards for compliance are those created in the field after licences have been issued. Field standards can interpret, clarify or alter site licence standards.

Waste control officers go out into the field and visit waste management sites for supervision purposes. Practical situations come up in which they have to decide, often there and then, what standard the operator should observe. Not all practical situations are regulated through standards in the site licence. What are the outcomes of such negotiations in the field? In the first section of the chapter, I will give examples of the adaptation of standards at the stage of site licensing. In the second section I will explore the negotiation of standards in the field.

8.2. Adapting standards at the stage of site licensing

8.2.1. Adapting standards to commercial considerations

Both the German and the U.K. RA adapted standards for handling waste, laid down in the site licence, to some extent to what the regulated could implement. In a new draft licence for a U.K. waste storage site, the time that waste could be stored on the site was restricted. The licensing section of the U.K. RA had first put down in the draft licence that waste should only be stored for one month. A waste control officer who visited the site frequently was asked for his comments on the draft licence. He suggested that the time limit should be extended to six months. He wrote in his comments:

'I do not think that it is realistic to turn stuff over within a month. They are dependent on final waste disposers. If they [the final waste disposer] do not take their waste they cannot get rid of it'.

When standards were imposed at the stage of site licensing commercial considerations were sometimes taken into account by the RA. A U.K. waste control officer explained to me that the way the compacting of waste was done at a landfill site was not prescribed by the site licence. Only the thickness of the cover was regulated. According to the waste control officer, it would be too prescriptive to make requirements about the way the cover should be compacted. He continued:

'We have to allow them to operate within financial margins'.

Another U.K. waste control officer, who was licensing sites, told me that they had to put conditions in waste management licences which were enforceable, reasonable and clear (see also WMP no.4; 1990:3, para.1). The waste control officer continued:

'I can't put in conditions that are too expensive. [...] One has to look for what the particular operator can afford'.

Also, sometimes standards about working plans were adapted to what the regulated did in practice.

8.2.2. Satisfactory and unsatisfactory working plans

Under guidance from the DoE (WMP No.4, 1990:11, para.2.3-2.9), and according to the U.K. RA's internal policy, a working plan of a waste management facility should be submitted before a licence would be issued for the facility. In guidance to operators on how to draw up a working plan it was stated:

"If, however, a satisfactory document has not been submitted within a specific period, operators should be aware that the disposal operations at the site should cease until approval is given. This is the only way that the approval of a working plan can be guaranteed. Without this provision there is little incentive for an operator to submit a document which the authority will be able to approve. The consequence of not approving the working plan within this specified period will be a condition of the licence so that the operator is fully aware of its significance on the activities of the facility". (policy document from U.K. RA).

The working plan is a document in which the operator outlines how he intends to run his operations. From my observations, it appeared that in the majority of cases the U.K. RA would not issue a licence before a satisfactory working plan had been submitted. But in some cases waste management sites which had not submitted, what was in the view of the RA a satisfactory working plan, were allowed to continue to operate lawfully with a licence. Through the field visits, on which I accompanied U.K. waste control officers, I got to know two waste treatment plants. There, over a number of years the RA had tried to persuade the operator to submit what the RA would accept as a satisfactory working plan. Operations at these facilities were not stopped but the operators had licences under which they could operate. Thus, standards on working plans were in practice sometimes adapted. Another way to adapt standards was to negotiate compromises for site licence conditions.

8.2.3. Negotiating compromises for site licence conditions

In the German RA, some standards for waste management facilities were negotiated with the operator. For example, for a waste management facility which proposed to treat contaminated soil, the water pollution control division of the RA had required the following: 2 foils had to be installed beneath the surface of the area where the contaminated soil was handled. The operator argued that this was too expensive. The requirement was finally changed to the following:

"The ground of the hall can be sealed through one layer if it has been ensured that from the soil washing plant itself no water polluting substances can seep out, such substances as to seep out can be collected through containers which are separately installed beneath the washing process and if the substances so collected can be disposed of safely" (my translation).

Sometimes site licence conditions would be adapted on the basis of information from supervision in the field.

Adapting site licences on the basis of supervision experience

In some cases, the U.K. RA planned to make changes in the site licence so that the operator would find it easier to implement it. This was the case at one site where, according to a U.K. waste control officer, there had been a history of a lack of implementation of the legal requirements which even led to prosecutions. The site was frequently visited, sometimes two to three times

per week. Finally, the licence for the site was due for renewal. According to the U.K. RA, new conditions in the licence were to help the operator to comply. Also, in the German RA on some occasions, site licence conditions were adapted to what the operator could comply with. The leader of a team of German waste control officers advocated site licences with which the regulated could comply. On one occasion he expressed concern about the fact that in some site licences the German RA would demand more from an operator than legal regulations required. For example, the technology of a waste incinerator might be so advanced that flue gas emissions could be beneath the limits set by the legal regulations such as the "TA Luft" or 17. BImSchV. (vom 23. Nov. 1990, BGBl. I S. 2545, ber. S. 2832). In some cases, the German RA would set the emission standards in the licence according to what the operator could technically achieve, rather than setting it according to legal standards. The leader of the group of waste control officers argued that it was wrong to expose the operator to an increased risk of committing an administrative offence. An administrative offence would occur if the operator breached the site licence standards, even if he was still in compliance with the legal regulations of the "TA Luft". Thus, in both the German and the U.K. RA, standards in site licences for waste management facilities were to some extent considered not as standards to which an operator should 'work up to'. Instead, they should be partly adapted to what operators

could realistically achieve in practice. Another way of adapting site licence standards was to make site licence conditions less onerous.

8.2.4. Making site licence conditions less onerous

Standards could be adapted to the way an operator wanted to run a site. In one case, a German operator objected to the requirement that malfunctioning or complete failure of a carbon filter for controlling air emissions should be monitored continuously through an optical and acoustic warning signal. The regulated offered instead to control manually, for example through quick tests, ("Dräger Röhrchen") the level of contaminants. This would indicate if the carbon filter was working or not. As far as the testing procedure for the carbon filter was concerned, the RA did not accept the regulated's point of view and insisted on the more extensive control devices for the carbon column it had suggested.

In a further case, a German operator commented on the definition of "treated soil" which the RA had used in the draft site licence. The RA had not defined this term in more detail. The operator suggested that it should be understood that at least 50% of the samples of treated waste should fulfil certain parameters for substances in the soil. The operator argued that unless this modification was to be added the site licence would

require that every sample of the treated soil would have to fulfil the standard for the soil parameters.

This negotiation of site licence requirements was relevant in two ways. Firstly, it indicates that standards are partly adapted to what the regulated can comply with. Thus standards in site licences might not be so much norms to which the regulated work up to. Instead they can be a reflection of what the regulated are able to achieve in practice. Secondly, negotiation of site licence standards cannot be just understood as a form of capturing the RA; winning the RA over to the operator's point of view of what the could do. Instead, the RA used the negotiation of site licence conditions in enforcement. The RA would sometimes argue that since the operator freely agreed to the licence conditions, he could not later complain that he was unable to implement some of them. Thus, the RA attempted to base the normative appeal of site licences on the fact that they were negotiated. The RA tried to invoke self-regulation in order to enforce legal requirements. In short, it was not the formal characteristic of the legality of the site licence but the operator's agreement to it which counted. Hence, compliance in practice could be a consensual, negotiated concept. Empirical compliance is not necessarily the outcome of a process of social control of the RA over the regulated. Instead, it can contain self-regulatory elements, such as the imposition of standards by the regulated on the regulated process. Standards for

compliance are negotiated between the regulated and the RA, not just at the stage of formal site licensing, but also in the field.

8.3. Negotiating standards in the field

Introduction

Standards created in the field are often neglected in concepts of 'formal compliance' which usually focus on abstract legal rules. Norms negotiated in the field can be simply operational standards where the waste control officer and an operator agree on how to carry out certain activities at sites. I will give a few examples of these negotiated standards. More importantly though, I will illustrate how requirements negotiated in the field can produce empirical compliance. Some of the standards negotiated in the field are adaptations or simplifications of formal standards laid down in regulations or site licences. In the following section, I will give a few examples which illustrate how and what standards were negotiated in the field.

8.3.1. Negotiating operational developments at sites

At waste control officer and a site manager discussed and agreed how a landfill site should be filled in. Records of these agreements struck in the field would be written down in the waste control officer's notebook. For example, in a note book the following entry could be found:

"Agreed the next few weeks tipping with x [site manager], i.e. the complete infilling of the remaining void in area A, then infill between the net bund and the high part of area B and then finish with C. Relocate site road onto area C [...]"

Competing compliance

Standards created in the field could be more onerous than requirements from site licences. At one of the sites which a U.K. waste control officer visited frequently, he told the site manager:

'You are within the volume of waste that the licence permits you but you have to ask yourself, given the amount of waste that you already have on the yard, can you handle so much waste?'

The waste control officer pointed out to the operator that the breach of site licence conditions about the handling of waste was caused by too much waste on the yard. The operator failed to implement provisions that required to store wastes only in certain areas of the yard. The operator, however, was in compliance with the limit spelled out in the site licence for the amount of waste the site could take in. Thus, compliance with site licence provisions on the handling of waste could be in competition with compliance with the limit on the amount of waste allowed into the site.

Negotiation in the field can provide control over standards

The negotiation of standards in the field was a resource for the waste control officer's work. Standards created in the field could provide discretion and thus

power for the waste control officer. It appears that U.K. waste control officers who went out into the field to visit and supervise facilities preferred to retain some control over standards which the regulated had to implement. A U.K. waste control officer from the licensing section explained to me that some monitoring officers preferred standards in site licences such as "the site has to be kept clean to the satisfaction of the RA" because this would allow the field officer to set his/her own standard in the field. In contrast to this, licensing officers would prefer a clearly defined standard such as "the site has to be kept clean as detailed in the working plan". The working plan would set out in more detail the procedures according to which the site should be kept clean. This would leave no flexibility for the waste control officer to set his own standard. Standards negotiated in the field could not just be a resource for the waste control officer but they could also be to the advantage of the regulated. Sometimes standards could be adapted to commercial considerations.

8.3.2. Adapting standards to commercial considerations

Operators could apply for changes in licences in order to have the licence adapted to accommodate their operational activities. For example, a U.K. operator applied to the RA to have his opening hours extended. The relevant condition in the licence was changed to accommodate this. At a U.K. landfill site, the licence

spelled out how much special waste on the one hand, and how much commercial and household waste on the other hand, the site was allowed to take in. A considerable area of the site had already been filled in. It now wanted to make the most of the remaining space. The operator applied for a licence amendment to the RA in order to get an increase in the amount of special wastes the site could take because he made a higher profit on those. The U.K. waste control officer who regularly visited the site said that there would be no objection to this because after all the site was a commercial concern. Also, in a file with written reports on another landfill site, I found the following entry:

"Increased domestic waste being taken in because of contractual agreement with company x. So commercial waste reduced accordingly - not causing any handling problems".

An adapted site licence could be a tool for achieving compliance and not just a standard to be complied with. Another entry in a file about a U.K. waste management facility read:

"Looking at the waste returns it was noted that some days more than the licensed five sharps boxes were coming into the site. I [waste control officer] spoke to the manager about this and I suggested that on the new modified licence, the number is changed to approximately ten sharps boxes per day".

The data here about the adaptation of site licences reflect that the regulated participate in the creation of standards. What seems at first sight a regulatory system through licensing of activities by a public authority has self-regulatory elements. In files of the German RA

relating to the licensing and supervision of waste management facilities, notes could be found regularly about the negotiation of standards. Some of these recorded entries showed that regulatory requirements could be simplified.

8.3.3. Simplifying regulatory requirements

Simplifying testing procedures

In one file, notes were made on the negotiation of a procedure for testing certain substances in the effluent of a waste management plant. The RA had first asked the regulated to carry out "bio tests" for testing chlorphenols in the effluent of a soil treatment plant. The regulated opposed this testing procedure on two grounds. Firstly, they argued that it was "technically and financially impracticable" to carry out these tests. Secondly, they argued that there was no need to carry them out. They intended to separate waste streams that might contain chlorphenols from other waste streams taken in and deal with them separately. According to the operator, waste loads containing chlor phenols would not end up in the normal treatment process and thus could not appear in the effluent which was discharged to the sewer. In the negotiations, the regulated finally offered a compromise solution. They would be prepared to test the effluent "sporadically" by fish tests. It was agreed between the RA and the regulated that during the first two months biological tests would be carried out monthly

and after this, tests would only be carried out once per half year. Another way to adapt standards was to provide exceptions.

8.3.4. Exceptions

Exceptions from testing procedures

On some occasions, the regulated and the operator negotiated exceptions to legal provisions. For example, the RA had required the German waste management plant to test certain substances in incoming wastes according to the "DIN" chemical testing procedures. The "DIN" procedures are standardized procedures which are the equivalent to standardized U.K. testing procedures such as the British Standards Institute (BSI) norms. The laboratory manager at the German waste management plant arranged a meeting with officers from the RA in order to negotiate that the plant should be excepted from these testing procedures for incoming waste loads. In his view, the testing of incoming waste loads was not supposed to take too long in order to guarantee a reasonable "turn-around" time for tankers. However, the "DIN" standards required the testing of certain parameters in the eluate of the waste samples. It took 24 hours to prepare the eluate of a waste sample. The German plant wanted the RA to approve a more simplified chemical testing procedure like the Merck-dip kit tests, which were in fact already in use.

Exceptions from the discharge consent

Furthermore the supervisor of the German treatment plant told me that the plant could apply in individual cases to the RA for exceptions from the discharge consent. One day the treatment plant had taken in a sludge that contained a very high amount of nickel. It was only later realized that the sludge could not be treated down to the discharge consent limits. The plant applied successfully to the RA for an exceptional derogation from the discharge consent. During a limited period of time the effluent from the treatment of that sludge could be discharged, despite the fact that it was above the discharge consent limits for nickel.

Exceptions from the site licence

The site licence for the German waste treatment plant required that the mixture of treated wastes from the pre-treatment plant on the one hand and from the chemical treatment side on the other hand, had to be handled separately. Thus, at any one time, the filter presses should either press waste mixtures from the pre-treatment plant or from the chemical treatment side. The RA inserted a condition to this effect in the site licence in order to prevent wastes from being mixed in breach of the legal prohibition on this. Through the mixing of wastes, problematic substances in the waste could have been diluted. The German treatment plant, however, managed to convince the RA that they could not

operate the presses with waste charges only from one line of the treatment. Treated waste from both the pre-treatment plant and the chemical treatment plant was required in order to have a thick enough sludge that could be processed through the presses. Thus, this informal standard had been negotiated while in the site licence the official requirement of not using the presses for waste loads from the pre-treatment and the chemical treatment side remained. This indicates that sometimes standards negotiated in the field could be informal and would not necessarily lead to amendments of the site licence document, even if they deviated from it. Standards could be also adapted in practice by waste control officers tolerating certain conditions.

Tolerating operating practices

The RA did not expressly agree to a particular situation at a site but sometimes tolerated some working practices. For example, the supervisor of the German treatment plant told me that there had been a long-standing argument with the RA about the limit for the discharge of iron in the treatment plant effluent. At the beginning, the RA had set a limit of 3 mg/l of iron. The treatment plant protested and after a lengthy argument the limit was set to 10 mg/l. Some time later the RA, however, reduced the limit again to 3 mg/l. The staff at the plant argued that they could not conform to this limit. According to the treatment plant supervisor, this

resulted in a situation where the RA tolerated in practice some deviation from the 3mg/l in the effluent .

Further exceptions: quick decisions

In some cases, none of the disposal routes for which a waste stream had been authorized was available at the German waste management plant. Also, it might not have been possible to declare the waste stream as a different waste stream for which other disposal routes were open. For these cases the plant had negotiated a particular agreement with the German RA. According to this, the plant informed the RA via a preprinted fax of the situation and applied for a different disposal path. This was a considerably shortened version of the whole "EN" procedure. For example, in contrast to the "EN", the fax would not necessarily contain an analysis of the waste. According to staff from the treatment plant, this fax procedure was not all that useful since it would not work on Friday afternoons when the staff in the RA had already left the office. Furthermore it could still take up to six hours for a reply to arrive from the RA. According to the supervisor in the treatment plant, a tanker could not wait too long on the yard before it could be decided what to do with it. Therefore the fax procedure was best used only as a last resort. Efforts would be made to try and find other solutions, for example, by classifying a waste load under a different waste stream and hence under a different "EN".

Exceptions to acceptance parameters at German waste management plants

Waste loads that were to go into a German waste disposal plant would have to be declared on the "EN". Usually, an analysis of the waste would have to be attached to it. According to a German waste control officer, if this analysis showed that the parameters of the waste were above the discharge limits then the waste control officer who supervised the plant had the discretion to decide if the waste load could be taken or not. It could be seen from entries in the file on the supervision of plants that sometimes waste was above the limits for certain substances set out in the licence. In this case the operator would provide reasons why he still should be allowed to take in the waste. For example, operators would write that the emission limits would not be broken because the plant technology would enable observance of the limits.

Getting clearances for exceptions from the list of wastes that could be taken into the waste management plant

Another outcome of negotiations could be that a waste management plant would get a clearance from the RA for certain ways of handling waste which would be an exception to the general legal provisions. For example, the site licence allowed the U.K. waste treatment plant only to take in inorganic, not organic acids. The plant, however, wanted to take wastes arising from orange juice

production. Orange juice wastes, containing citric acid, might be classified as an organic acid but according to the senior chemists this was a 'grey area'. The plant thus contacted the RA and asked for permission to take these wastes. The RA granted this permission.

8.3.5. Ad hoc agreements between the regulated and the regulators during site visits

Bunded areas for tanks

Some agreements were negotiated in the field as a way of dealing with newly arising situations. Both in the German and U.K. RAs waste control officers would frequently detect that the operator was not implementing provisions from the site licence during a site visit. In that case, an agreement might be struck between the waste control officer and the operator on how the situation could be changed. For example, during one of the visits of a German waste control officer to check planning conditions, she noted that a tank of oil was not stored in a bunded area. According to her, containers with substances that can cause water pollution have to be stored in bunded areas. It was finally agreed between the waste control officer and the operator that the wall around the yard could be considered as constituting a bund for the oil tank.

This agreement was a compromise, since, according to the waste control officer, she could have asked the operator to install a bund around the oil tank rather

than to accept the yard as the bunded area. Also, the waste control officer could have asked the operator to install a protective guard ("Anfahrschutz") around the oil tank, guarding it from being rammed, for example, by vehicles used on the yard.

"Clown" telephones and the classification of waste

Sometimes new situations would arise in the field and it had to be decided what actually constituted the implementation of legal requirements. At a U.K. landfill site, a load of toys, in the shape of clown telephones, was to be disposed of. The paint on those toys contained lead. It had to be decided if these toys should be classified as non-special or special wastes. There were restrictions on the amount of both types of wastes the landfill site could take in. But special wastes were more profitable wastes. Disposal prices for these were higher. Thus, the technician from the landfill site wanted the toys to be classified as non-special wastes, so that they would not decrease the amount of special wastes left that could be still landfilled. The waste control officer finally agreed to this but said that he would have to verify it with the section leader in the RA.

Adapting standards in the field to particular circumstances

Standards might be adapted to the particular circumstances of individual waste management sites. A senior manager in the U.K. RA told me that a standard

condition in site licences, that the waste at a landfill site should be covered with soil at the end of the working day, could be applied differently at individual sites. For example, at a site out in the countryside, it would not be so important that the cover would be thick enough. But at a site in a more urban area with nearby housing, where children might be playing, it would be important to have a thick enough cover to prevent people from coming into contact with deposited waste. In short, U.K. waste control officers would sometimes adapt the conditions in a site licence to the surroundings of a site. Hence, standards in practice were not necessarily universal.

This point is also illustrated by the following story. I accompanied a U.K. waste control officer to a waste management site which processed used oil. According to the site licence, the site should not be a detriment to the local amenity and the road outside the yard should be kept clean. Vehicles, however, leaving the site would carry oil onto the road and the area around the site. The site was situated in an industrial area. According to the U.K. waste control officer, it did not matter too much that the road outside was slightly oil-contaminated because 'the area was bad anyway'. Also, according to him, it would be difficult to prove that the oil came from that site and not an adjacent facility which was also handling oils. Prosecutions could be another situation where standards were adapted.

Prosecutions and the adaptation of standards

A senior manager in the U.K. RA told me that sometimes licences would be adapted after a prosecution. A prosecution would most likely show that a company was not able to implement legal requirements. Furthermore, after a prosecution, the RA would be in a strong position to negotiate with the operator. The operator could not really object to site licence changes in this situation. Hence, criminal prosecutions might be used in some cases by the U.K. RA as a resource for the negotiation of changes to licences. They might also be used as a pointer to problems at a site which might be remedied through the adaptation of standards to what the regulated could implement. In the German RA, adapting standards to what operators could realistically achieve was one aspect of associating the task of waste management planning to the enforcement of legal requirements.

Adapting standards by linking waste management planning to enforcement in the German RA

One important aspect of the work of the German RA was the attempt to link the planning of waste management facilities with enforcement. According to a German waste control officer, this connection could mean that conditions imposed on a waste management facility in a licence would be adapted to what a facility in practice was likely to achieve. A good example of such a link was the plan for scrap yards.

The waste disposal plan for the scrap yards

In this plan, standards imposed on waste management facilities were adapted to what the facilities could implement. A German waste control officer who was supervising scrap yards had noted problems with the implementation of legal provisions there. He told me that through the plan he did not want to 'gold-plate' the scrap yards but make sure that they at least implemented a minimum of standards ('Wir wollen hier nicht die Autowrackplätze vergolden').

According to the German waste control officer, one common problem at the scrap yards was that they failed to concrete areas where they were dealing with water polluting substances such as oil. He explained that scrap yards often lacked money to pay for concreting large areas of their yards. Hence, the requirement set out in the plan was not an abstract and universally worded one that all scrap yards need to be completely concreted. Instead it said:

"The whole scrap yard is generally to be protected ("zu befestigen")".

This was a more flexible requirement that could be adapted to the individual circumstances such as the financial circumstances of the scrap yard operator. According to the waste control officer, the situation could be adapted if the scrap yard operator confined the handling of polluting substances to a particular area. Only this area would then need to be covered up.

Furthermore, the requirement in the plan only said that the yard would need to be protected. This left flexibility on how to do this. Thus, the expensive option of using concrete was not made mandatory. Also, according to the plan, oil interceptors were not always necessary. Hence, the waste control officer had flexibility to decide in individual cases if adequate protection of groundwater and soil could be effected without an oil interceptor. Another way for adapting standards to what the regulated could achieve was simply to provide time to implement them.

8.3.6. Adapting standards through providing time for the implementation of legal provisions

Sometimes the outcome of negotiations between the regulated and the RA in the field was that the RA would provide time for the regulated to implement legal provisions. For example, the German waste management plant had tanks into which liquid waste loads were discharged before they were transported to landfill. The licence to operate these tanks had expired. The RA, however, tolerated the operation of the tanks without a valid licence while the German plant obtained a consultant's opinion on the possible technical upgrading of these tanks.

Sites awaiting a decision

Enforcement action was not always immediately taken against unlicensed sites as soon as their existence was

discovered by the U.K. RA. Until a final decision had been made on whether these sites would be prosecuted for operating without a licence or closed down without a prosecution, the sites were allowed to operate. Usually 'an eye would be kept' on those sites. Thus, some supervision by the RA was also extended to sites that in theory should not exist, i.e., unlicensed waste management sites.

Providing time for implementing legal provisions for newly licensed sites

Furthermore, according to a U.K. waste control officer, if a licence was newly issued, then the RA would give the operator about one month 'to settle into things' and adapt to the licence. During this time allowance would be made for 'non-compliance'. In some cases site licence conditions had not been finally agreed during the licensing process. In this case the operator would get a deadline in the site licence which provided for further time to implement legal provisions. For example, in one U.K. licence, condition 11 read:

"Measures to control any environmental hazard during the discharge of waste into reception tanks or pits shall be installed within six months of the issue of this modification and subsequently maintained and used in accordance with the working plan".

In the same licence modification the following statement could also be found:

"Within one year of date of modification all tanks shall be of a closed construction".

Negotiation as a delaying tactic

Negotiation could be used to provide time for the implementation of legal provisions. Sometimes, while the RA and the regulated negotiated, legal provisions were not implemented by the operator. For example, at one waste management site the RA wanted the operator to install scrubbers on top of the tanks in which liquid waste loads were stored and treated. A licence condition required this but the operator did not implement it. Finally, the RA served a section 93 (1) COPA 1974 notice on the company which operated the site. The notice required the operator to tell the RA what steps he had taken to comply with conditions in the licence, e.g., if he had entered into contracts with suppliers and the date by which the company would plan to implement the conditions. Hence, a lack of implementation of legal provisions could exist for some time at a site while negotiations between the operator and the RA were ongoing. Thus, 'non-compliance' was not necessarily measured in absolute terms by the RA but could be measured in relative terms. Some activities would only count as 'non-compliance' during the time that the RA specified. A U.K. waste control officer told me:

'We give advice, we give people time to put things right, we do not move in immediately and say 'you [= operator] got things wrong, you will be nicked for this', but we tell people about it and then give them time to put things right'.

Flexibility in handling standards: "de minimis rule"

U.K. waste control officers allowed for some flexibility in the handling of legal standards. One day a waste control officer visited a hospital waste incinerator. According to the licence, bags in which clinical waste was stored and containers for sharp instruments ("sharps") had to be closed. If one of those boxes or bags were open then technically the licence condition had been broken. According to section 3 (1) (b) COPA 1974, the operation of a process in breach of site licence conditions could constitute a criminal offence. When I accompanied a waste control officer at a visit to this site he explained to me:

'If there is only one bag open and the rest of them are properly closed then we don't prosecute. That would be just petty. In that case we tell them to change it'.

This approach might be described as a "de minimis rule" under which breaches of site licence conditions that were classified as minor breaches did not attract formal enforcement action. Other U.K. waste control officers also told me that 'minor' compliance problems at sites would not be prosecuted. A waste control officer would query the situation and then usually the operator would himself offer to change it.

8.4. Conclusion

In this chapter I dealt with the question 'compliance with what?'. I looked at the creation of standards at the stage of site licensing and in the

field. Site licence standards do not only draw on legal orders, i.e., requirements from statutes, regulations and guidance, but also on the social practices of the regulated. Site licences can be adapted to what the regulated do in practice at facilities. Thus, standards in site licences can help to produce 'compliance'. Standards in practice can be created in the interaction between the RA and the regulated. The regulated participate in the setting-up of these standards. What seems at first sight a classical regulatory system through licensing of activities by a public authority has self-regulatory elements, such as the imposition of standards by the regulated themselves on their own process. Hence, empirical compliance is not just a normative, but a consensual and negotiated concept.

CHAPTER 9: HOW ARE STANDARDS ADAPTED? EXPLAINING NEGOTIATION

9.1. Introduction

Having outlined in chapter 8 that standards are to some extent negotiated and adapted in the interaction between the regulated and the RA, I now will discuss how this is actually achieved. In particular, I will refer to three factors which seem to be relevant for understanding negotiation. Firstly, I want to look at the relationship between legal provisions and negotiation. Is a notion of "bargaining in the shadow of the law" (Mnookin/Kornhauser, 1979) appropriate to describe some of the negotiation situations I observed? What is the nature of the social order achieved in the interaction between the regulated and the RA? Are site licence standards imposed by virtue of legal powers or are they negotiated? Secondly, I want to come back to the issue of what becomes understood as legal requirements in practice. How does negotiation contribute to what becomes understood as a normative requirement in practice? Thirdly, I will not just look at legal frameworks but I will explore the relevance of shared cultures between the regulated and the regulators for understanding negotiation. Fourthly, as in the previous chapters 4,5 and 6 I want to come back to the theme of contexts. I will explain how negotiation is shaped by the context in which enforcement officers carry out their tasks. This context can involve contradictory requirements, such as being on good terms with operators and enforcing

standards against them. This refers back to the idea that what becomes understood as compliance is partly a consequence of the management and integration of conflicting demands on the actors' behaviour.

Sources of information

During the field work, I sat in on some meetings between the operator and the German RA which dealt with the licensing of waste management facilities. There seemed to be fewer meetings between the operator and the U.K. RA in connection with the licensing of sites than in the German RA. Licensing took up less time in the U.K. RA than in the German RA. In Germany waste management is a politically more contentious issue than in the U.K. The licensing of facilities takes on average longer and some licensing procedures are in practice more complex, due, for example, to intensive and adversarial public participation (Striegnitz, 1992:5). In the U.K. RA, I had no access to meetings on the negotiation of licences between the operator and the RA, but I had access to files on waste management sites which sometimes contained notes on licence negotiation sessions between the operator and the RA. I also have a few comments from waste control officers on meetings about the licensing of waste management facilities. In the German RA, waste control officers were responsible both for the task of licensing and supervising sites. This meant that waste control officers had less time to go out into the field.

Thus, in the German RA I observed in absolute terms less negotiation in the field than in the U.K. RA.

9.2. Variation in negotiation: different responses to different operators

It appears that both in the U.K. and German RAs negotiation was used differently with various operators (see also Genn, 1993; Hutter, 1988). In the U.K. RA, negotiations in connection with the working plan or site licences seemed to be conducted particularly with larger companies, which operate several sites, and with operators of complex sites, such as transfer stations or waste treatment plants. There seemed to be less negotiations with smaller operators or operators of non-complex sites, such as small transfer stations for inert wastes. Similarly, in the German RA, negotiations about site licences seemed to take a different form for various operators. Some operators had their own idea of what procedure their process should be licensed under and they would negotiate about this with the German RA. Other operators would be simply told by the RA according to what procedure their process would be licensed. Thus, when reading the following sections in this chapter it is important to bear in mind that the data reported here do not reflect the RAs' approach to all operators. Negotiation was extensively used but waste control officers had discretion on how they carried out their work. Thus, different waste control officers had

different approaches to the use of negotiation. Some were more in favour of it than others.

9.3. The importance of negotiation: negotiation and other ways of interaction between the regulated and the RA

Negotiation can be one form of interaction between the regulated and the RA. There are other forms of interaction between the RA and the regulated can interact. For example, the RA can attempt to influence the behaviour of the regulated through criminal prosecutions. The RA can also rely on formal legal provisions which the relevant statutes provide (such as the "Verwaltungsvollstreckungsgesetz" 1953 in Germany and COPA 1974 in the U.K.). I want to locate briefly negotiation within the context of other forms of interaction between the RA and the regulated, such as criminal prosecutions and the use of formal legal provisions. What was the relationship between negotiation and other legal provisions? Was negotiation only used when there were no other legal forms of interaction available?

Apart from criminal prosecutions there were other formal sanctions available to the U.K. RA under COPA 1974, such as the revocation of a site licence under section 7 (4) and section 9 (4) (b) and the serving of enforcement notices on the regulated under section 9 (4) (a). But from records in the enforcement section, it appeared that they were seldom used. According to a U.K.

waste control officer, he had to consider carefully when to serve a notice for failure to implement site licence conditions. If the operator did not comply with such a notice, the next step would be the revocation of the site licence and this was definitely only to be considered as the last resort. Thus, formal legal enforcement provisions were less often used than they could have been.

Negotiation did not just fill the 'gaps', for which, for example, German administrative law made no provision but negotiation was also used where other more formal legal provisions could have been used. From my observations in the German RA, it appeared that not just criminal sanctions but also other sanctions available to the RA were only used as a last resort and were partly replaced by negotiation. German administrative law, of which waste management law is a part, is a developed area of the law which provides for concepts such as the administrative decree (in German: "Verwaltungsakt") or administrative orders ("Anordnungen"). Empirical research has shown that formal legal provisions are often replaced by more informal types of interaction between the regulated and the RA (Bohne, 1980). Negotiation partly replaced the use of criminal prosecutions both in the German and the U.K. RA. This is in accordance with the German cooperation principle which says that environmental protection should be achieved together with the regulated rather than against them (Klöpfer, 1989:91).

In some cases, however, both in the U.K. and Germany, negotiation would not replace the use of criminal prosecutions but could be used together with prosecutions. A U.K. waste control officer made the following comment about what he considered as a lack of implementation of legal requirements at a site he frequently visited:

'You know when you come down here to the site, every time you could nick somebody for at least fifteen things'.

This quotation illustrates that it is not the identification and prosecution of non-compliance that is necessarily considered as important ("naming and blaming") (Felstiner/Abel/Sarat; 1981). Some sites which were considered as problem sites were visited by the waste control officer not in order to find out if there is "non-compliance" or "compliance". In the waste control officer's view it was clear that there was "non-compliance" at the site. Instead he visited problem sites in order to sustain a process in which the behaviour of the regulated could be gradually changed towards compliance. One tool for this was negotiation. The evaluation of conditions at a site is not necessarily important in the context of empirical compliance. Instead the operator should be persuaded to aim for improved standards. Negotiated standards could replace reliance on formal legal provisions.

Unenforceable site licence conditions

On some occasions the RA did not rely on legal forms in its interaction with the regulated but on negotiation. For example, the licensing section of the U.K. RA wrote draft licences for waste management sites. These draft licences were passed on to other sections in the RA, such as the officers who conducted field visits and officers in the enforcement section. The enforcement section checked these draft licences, particularly on the issue of whether their conditions were enforceable in law. According to DoE guidance, site licences should only contain conditions which are enforceable (para.13 WMP no.4, 1990:9). From the files on the licensing of different waste management facilities I could see that quite often the enforcement section had commented that in its view the conditions were not enforceable. The licensing section nevertheless often inserted these conditions in licences. Thus, licences were issued which contained conditions which might not be enforceable in law. To persuade operators to implement the provisions of these site licences was probably more based on the individual authority a waste control officer established in the field in direct interaction with the regulated rather than the formal authority of the law. This indicates the importance of negotiated order for ensuring implementation of site licence conditions in contrast to the authority of the formal law. This example illustrates that when looking at situations where the regulated and

the RA "bargain in the shadow of the law" (Mnookin/Kornhauser, 1979), it is important in some situations not to overestimate the importance of the legal framework in which negotiation occurs. The formal authority of the law might become irrelevant where the personal authority relationship negotiated in the field between a waste control officer and the regulated might provide a foundation on which normative requirements by waste control officers rest. This might be a twist on the notion of "bargaining in the shadow of the law". In the next section I will explore how the regulated and the regulators did not just bargain in the shadow of the law, but also in the shadow of the social practices.

9.4. Negotiating with reference to the social practices of the regulated

Licensing officers' knowledge of sites

In order to understand negotiation and its relationship to formal legal provisions it is important to explore how standards were negotiated between the regulated and the RA. Both in the U.K. and the German RA, it was considered as important that waste control officers who licensed sites should be familiar with conditions at sites. In the U.K. RA, this meant that licensing officers would visit sites before drawing up a licence. In the German RA, a waste control officer told me that it was one of the positive aspects of merging the licensing and supervision of waste management facilities

that now the licensing officers would know conditions at sites from first hand experience. According to some German waste control officers, this would improve the quality of licences because now licences would be more closely related to what operators actually did at sites.

Consultation of the regulated at the stage of site licensing as an opportunity to adapt site licences

Both in the German and the U.K. RA, the site licence was sent in draft form to the regulated before it was finally approved. This was done in order to give the regulated the opportunity to comment on it. Thus, the site licence was a negotiated rather than an imposed order. According to a German waste control officer, a lot of operators would not read the licence. In the licensing procedure for some waste management facilities, negotiations would be conducted by an engineering or environmental consultancy on behalf of operators. According to the waste control officer, to give the operator an opportunity to read the draft licence should prevent the operator discovering - after the licence had been formally issued - that it was too expensive to comply with. Another tool for the U.K. RA to adapt standards to what the regulated could comply with was the working plan.

Working plans as a tool to adapt standards to actual practices at sites

Working plans were an important aspect of the licensing of U.K. waste management sites. In the new revised version of WMP No.4 the DoE advocated the use of so-called working plans for the licensing of facilities. The working plan is a statement drawn up by the operator on how he intends to operate his waste management process. According to the DoE, working plans were used for the licensing of facilities in order to adapt licences more to the individual circumstances at particular waste management sites (WMP no.4, 1990; para. 1.4).

A U.K. licensing officer told me that some waste management facilities used consultants to draw up working plans for the operator. According to the licensing officer, this was not always an advantage because the consultants would not necessarily know what was going on at the site. Instead he found that sometimes consultants wrote working plans which were not practicable:

'They [consultants] might have all sorts of ideas and agree a working plan with us [RA] and then the guy on the site says: No way, I can't work that'.

In Germany, a particular document called "working plan" does not exist, but operators do have to submit with their licence application a statement about the operations at the site. This seemed to be similar to working plans in the U.K. For example, according to a

German waste control officer, proposals by an operator on how to deal with certain aspects of the operations might make it unnecessary to regulate those aspects of the operations through a licence condition. Another German officer explained that it was important to adapt licences to some extent to what the operator was actually doing in practice. He said during negotiations over a site licence with an operator:

'We want to follow reality with this licence. Negotiations between the RA and the operator should help to approach step by step what is realizable'.

According to a U.K. waste control officer, licences would be written around the working plan. This meant that conditions would be inserted in the licence which referred back to the working plan. For example, a condition in the licence could say: the testing of incoming loads is carried out in accordance with the procedures spelled out in the working plan. Working plans could also adapt standards to actual conditions at sites by providing formal legal status to alternative standards.

Working plans: providing formal legal status for alternative standards

On some occasions, waste management plants would take waste loads if they could be treated by the plant although they might not be allowed into the site under the site licence. This occurred at the U.K. waste treatment plant where I conducted field work and,

according to U.K. and German waste control officers, at other sites. The site licence might have required that the waste load should conform to the analysis of the initial waste stream. Hence, taking in wastes if they could be treated at the facility became an alternative standard to the site licence standard. In some working plans for U.K. sites I saw that operators had spelled out that they were operating this practice. By being part of the working plan this alternative standard would be part of the standards of the site licence and hence become part of the legal standards for operations at the site. It would modify the list of wastes spelled out in the site licence. The working plan stated:

"If the waste does not conform to the original analysis the matter is referred to the plant manager who decides if the plant has the ability to handle the waste. If the plant can accommodate the waste then permission is obtained from the WDA and the waste producer prior to discharge".

Also the working plan for another waste management facility contained such an alternative standard:

"Waste not specified in Schedule B can not normally be accepted. However, if the non-specified wastes are present at trace levels and are shown at pre-sampling to be treatable within the plant, verbal consent can be obtained from the RA. For waste with a higher contamination level of a non-specified nature written consent may be given by the RA subject to a satisfactory treatment method. In emergency situations, when immediate contact with the RA is not possible i.e. outside of working hours and it is thought that treatment can be effected the waste can be collected and transferred to [the waste management facility]. On arrival it is subject to normal sampling/analysis procedures".

Thus, site licence standards could be adapted to actual practices at plants through the working plan. In some cases this could mean that customary practices to circumvent site licence provisions could be elevated into formal site licence standards.

Limits to adaptation of site licence standards to the social practices of the regulated

Licences issued by the U.K. RA would not completely copy the provisions of the working plan. In connection with some issues the licence could override the working plan by imposing different procedures than the operator had envisaged. The operator was not completely free to write the working plan the way he/she wanted to, but the RA provided written guidance to operators on what aspects of the operations of a waste management facility should be covered. Thus, although working plans gave the operator an opportunity to influence the standards the RA might impose on his/her process, there were limits to this. The RA would not accept all procedures proposed. Part of the licensing task was the critical scrutiny of working plans. In order to explain negotiation it is not just important to look at the relationship between legal frameworks and negotiation but also take into account cultural aspects in the interaction between the regulated and the RA.

9.5. Negotiating within a framework of shared cultures

In this section I will illustrate that negotiation about standards for compliance and what constitutes compliance was conducted within a framework of partly shared cultures. In fact shared cultures were an important basis for negotiation. Shared culture means shared knowledge, understandings and concerns. I will refer to two examples which illustrate this: Firstly, seeing conditions at a site through the eyes of the regulated, and secondly, being sympathetic to commercial considerations of the regulated.

Looking at the regulated process through the eyes of the regulated

Sometimes the waste control officer would look at the regulated process through the eyes of the regulated by identifying with the role of manager of the regulated process. The waste control officer would not perceive himself as separate and distant from conditions at a site but would have close knowledge of the concerns of staff at the site, their pressures and problems. Hence, when pointing out why implementation of legal provisions would make sense from the point of view of the operator, waste control officers would sometimes put themselves into the operators' shoes. For example, at a landfill site a U.K. waste control officer discussed with the site manager the state of the road. The road into the quarry had to be adapted as the quarry was filled in. The waste control

officer discussed in detail with the operator how the road should be built and safety aspects of this.

Waste control officers could become so closely involved that their job was not just about enforcing site licence provisions but resembled more the job of the manager of a site. At one U.K. waste management site lack of implementation of legal requirements was reoccurring and the site was frequently visited by a waste control officer. A new manager had been temporarily assigned to the site in order to deal with its problems and to implement legal requirements. The waste control officer made detailed suggestions on how the handling of waste could be improved. He told the new manager:

'One of the things I would like to see is that the people from the treatment plant help out the people from the transfer station. Sometimes there is not much to do at the treatment plant and it would be good if the guys then would just help out at the transfer station'.

The new manager replied to the waste control officer:

'Well, you are not getting paid for managing this place'.

Waste control officers perceived management issues such as how staff was deployed, qualifications of staff, the co-ordination of various tasks at a site, as relevant to the site's ability to implement legal provisions. During a walk around the site the waste control officer explained to me that a lack in the planning and coordination of incoming and outgoing waste loads at a waste transfer station caused problems of handling waste

at the site and lead to the breach of site licence conditions. The waste control officer explained that now that the site manager had developed a new system for managing waste movements. As a result of this the situation at the site had improved because the manager now had an overview of what was going on at the site. A further aspect of shared cultures between the regulated and the regulators could be that sometimes waste control officers were sympathetic to commercial considerations of the regulated.

Being sympathetic to commercial considerations of the regulated

Some waste control officers felt that the U.K. RA's management, such as team leaders, was emphasizing close contact with waste management sites. As one U.K. waste control officer explained:

'I think we go to sites too often. You become part of things, you become part of the company. You start talking to them like a company representative. You get too close to things'. If they [the management in the RA] are so keen on the private sector they should go and work for them'.

But also some waste control officers seemed to be sympathetic to the idea that operators had to take into account financial considerations when planning their waste management facilities. The leader of the group of German waste control officers who supervised waste incineration plants told me that operators would usually try in preliminary negotiations to lower the regulatory

requirements the RA was asking for. According to him, operators had to do this because otherwise they would not be able to invest. Though each side tried to put their case, negotiations between the RA and the regulated were based on some shared understandings. One of these seemed to be that they would only be required to do what they could convince the RA they were able to do. Arguments about the commercial ability of the operator to fulfil requirements were part of this.

Furthermore, a frequently adopted negotiation strategy of waste control officers in the field was to point out that compliance was in the commercial interests of the regulated. For example a U.K. waste control officer told a site manager:

'You know it is to your advantage if you get rid of those drums quicker because you will be quoting the person who gives the stuff for disposal to you and then it comes here and it is just stored. Disposal prices go up all the time and then if you pass the stuff on for disposal you will be paying more than you quoted for and you will be losing out on money'.

Conforming with legal requirements could not just be seen as implementing legal rules therefore, but also as implementing other business values such as in this case enhanced profitability from the faster turn-over of waste. Similarly, during one visit to a waste management site, a U.K. waste control officer told the operator that it would be to his advantage to leave some space between a row of drums. If the operator wanted to inspect at drum

at the rear end of the hall he could do this more easily if he left enough space. Otherwise the operator would have to remove all the drums with the forklift to get to a drum at the rear. During another walk around a site, a U.K. waste control officer picked up lab smalls and asked what chemicals they contained. The immediate site manager did not know the answer. The U.K. waste control officer told him that this should not happen. As a reason for this the waste control officer did not refer to site licence requirements but to the commercial aims of the facility. The site was working towards registration for the quality management standard BSI 5750 which could help to improve marketing of its services. The waste control officer argued that for registration with BSI 5750 the site would have to be able to show to customers that they could trace items of waste from their original consignment to their final destination. Apart from shared cultures between the regulated and the regulators the context of the waste control officer's job is important for explaining negotiation.

9.6. Explaining negotiation through the context of the waste control officer's job

Negotiation as a way for waste control officers to "get the job done"

Like the staff at the waste management plants, waste control officers had "to get their job done" in the context of various, and partly conflicting, demands.

Being a waste control officer required dealing with various aims, such as promoting one's career, 'controlling' what waste management plants do and dealing with expectations from the public about waste control officers' work, as well as fulfilling organizational aims of the RA. In my view, negotiation could help waste control officers meet different demands of getting their job done. For example, negotiating a solution to an enforcement problem could enable officers to stay on 'good terms' with operators and at the same time fulfil a task of 'social control' in steering operating practices at facilities in the direction the RA perceived as conforming with requirements.

Also, according to a U.K. waste control officer, agreements negotiated in the field between him and the regulated could be important for managing the supervision of sites. He told me that the RA agreed with a waste treatment plant operator that it would not take in voluntarily certain waste streams although it was licensed for it. The RA did not want the waste treatment plant to take in these waste streams because the plant had no equipment installed at the tanks to scrub emissions from the waste loads. According to the waste control officer, it was good that the RA had been able to strike such an agreement with the regulated because otherwise it would have been difficult to prevent the regulated from taking in such loads.

But some of the U.K. waste control officers also perceived that negotiation with operators could make their job more difficult. One of the drawbacks of negotiation seemed to be that it could be used by the operator as a delaying tactic and that it did not involve clear steps of an aggravated enforcement response or time limits, such as legal provisions provide starting with prosecutions and leading ultimately to licence revocation. At one U.K. site, a waste control officer had spent a lot of time trying to deal through negotiation with the recurring lack of implementation of site licence provisions. He finally commented to me that he would prefer the following system:

'You give them two slips in relation to a complaint and then they get a letter and then they get nicked'.

Needing to be "on good terms" with operators

The personal dimension of the relationship between the regulated and the waste control officer could promote a cooperative rather than an antagonistic approach, involving negotiation in the field rather than the use of criminal prosecutions. A U.K. waste control officer explained to me:

'I have been on sites and served notices. I have been Mr. Nasty but it is not a nice thing to do and people stop to cooperate. If you ask them a question they will simply say: 'I have not been told, I don't know etc.', which makes your job impossible'.

Formal enforcement action such as serving notices and criminal prosecution for failure to implement legal provisions could be counter-productive for promoting what U.K. waste control officers perceived as compliance. Also in Germany criminal prosecutions were only be used as a last resort because they could diminish the operator's willingness to implement legal regulations. The waste control officers did not want to promote a confrontational stance. How important the German RA considered this cooperation principle is also illustrated by the statements made in an official press release by the German RA. In this, the RA pointed to its success of having reduced the amount of special waste arising in its area. The RA stressed as a particularly positive aspect of this achievement that these reductions were achieved through cooperation between the RA and the relevant industrial sectors. The press release specifically mentioned that no authoritative legal instruments were used, such as subsequent administrative orders or the repeal of licences. Thus, cooperation with the regulated - which had also the status of a formal principle in Germany - was a practice in both the U.K. and German RA.

The impact of the relationship between the waste control officer and the regulated on the collection of information

For waste control officers, an important resource for the collection of information about sites during field visits was the personal relationship they developed

with employees at a site. One U.K. waste control officer told me that he would often stay at a site for a while, for a coffee and a chat, in order to get to know trade gossip and information about sites and the industry in general.

Personal aspects of the relationship as a resource for negotiation

Also operators tried to use the personal aspects of the relationship between the regulated and the regulators in order to promote a cooperative climate of negotiation. As one waste control officer put it:

'People at sites: they send you Christmas cards and ask how you are, they try to get on first name terms with you'.

A U.K. waste control officer told me that operators would try sometimes to get clearances over the phone from a waste control officer for certain actions. According to the waste control officer, the regulated would try strategies as described above in order to create a 'good relationship' with the waste control officer in which it would be easier for the operator to ask for such clearances. Thus, 'being on good terms' could be a two way requirement that was perceived both by waste control officers and operators as important to achieve their respective aims.

Cooperation approaches can make the use of prosecutions more difficult

Some German and U.K. waste control officers thought that a cooperative approach might make the use of punitive sanctions - the last resort in cooperative approaches - more difficult. According to a U.K. waste control officer, taking out a prosecution against a site where there had been recurring failure to observe site licence provisions could be difficult. The operator would argue that his practices had not attracted enforcement action for some time. Therefore he was justified to think that the waste control officer consented to the practices operated at the site.

Similarly in the German RA it was perceived that acquiescence to operating conditions or agreements in the field which would lag behind legal standards could be counterproductive. If the RA finally decided to take out a prosecution the operator could try to argue that the RA had allowed his activities. This was an especially important factor in Germany because there waste control officers can be charged with being an accessory to an environmental crime if they have acquiesced in or allowed what might be considered as criminal practices (Schönke-Schröder, 1988, Vorbem. § 324 ff, Rz. 38,39,40,41). Hence, the use of negotiation as the main enforcement response had a self-maintaining social dynamic, in which - once negotiation was used - it became more difficult to use prosecutions.

Limits to being 'on good terms' with operators

According to the U.K. waste control officer, the fact that there could be a relationship between the regulated and the waste control officer could be both a resource and a barrier in enforcement work. On the one hand a close working relationship was important for gaining information about the regulated process. On the other hand, according to a U.K. waste control officer it could mean that he would lose his critical distance to the regulated site. Some U.K. waste control officers expressed their concern that they might start accepting operating practices at a facility simply because they had always been like that and the waste control officer became familiar with them without questioning them. Getting too close to the operator could be in conflict with the control and enforcement role which waste control officers perceived as part of their task.

Needing to be reasonable

Some U.K. waste control officers considered it important to be seen to act reasonably in their dealings with operators. In an exchange with an operator at a site where, in the view of the RA, there had been repeated non-compliance a waste control officer said to a director of the company:

'Well, I get upset when I have to repeat myself and when the staff do not answer my questions'. I try to be reasonable. I write letters if I do not get a reaction to what I say and then at the end the next step is prosecution. You just do what the next step is'.

Another U.K. waste control officer told an operator:

'You know I try to be reasonable, if you give a reason why you can not use the shredder then this is alright. Then I know why you could not move the drums from the shredder hall'.

The issue here was that the operator stored waste drums in the shredder hall despite the fact that this part of the waste management facility was not licensed for the storage of waste. The waste control officer tried to describe his enforcement efforts as reasonable. He indicated that if the operator would provide reasons for the failure to implement legal provisions this would show to the waste control officer that at least efforts had been made. Waste control officers tried to promote the normative appeal of legal provisions by pointing out that conditions were reasonable. Waste control officers would not tell operators in the field: "This is the law and therefore you have to conform to it". Instead they would point out that their demands were not just legal but reasonable with reference to a common sense understanding of the situation. Thus, reasonableness rather than formal legality became a justification for requirements for legal compliance.

Apart from pressures to be on good terms and to be reasonable, waste control officers also had to consider the advancement of their careers when organizing their enforcement work. A German waste control officer explained that when considering what tasks to tackle for enforcement he would focus on those which would promise success. According to him, it was important to choose

those enforcement tasks that would help to portray a positive image of his work efforts. There could be further organizational and enforcement incentives for negotiation.

Organizational and enforcement incentives for negotiation

Instead of serving formal administrative orders it was common for German waste control officers to negotiate an agreement with the operator and then write an entry about it in the file ("Vermerk"). According to the leader of the group of waste control officers who were supervising waste incineration plants, one of the advantages of using informal agreements was that they did not require the waste control officer to observe all the technical legal procedures he would have to refer to when serving a formal administrative order on the operator. This meant less opportunity for making mistakes and less opportunity for being criticized in case something went wrong. 'Informal' ways of interaction could shield a waste control officer's actions from legal and organizational accountability.

A German waste control officer told me that she tried to avoid formal legal provisions and relied on negotiated agreements instead of administrative orders ("Anordnungen") when requiring an operator of a waste management facility to do something. In her view, if she did not use formal legal measures then also the operator would not be able to use the formal objection procedure

("Widerruf") which would most likely complicate and prolong sorting out an issue. Thus, 'informal' ways of interaction between the regulated and the RA could also involve depriving operators of formal legal remedies.

9.7. Conclusion

Negotiation plays an important role in what becomes defined in practice as compliance. Negotiation was a pervasive feature in the interaction between the regulated and the RA both in Germany and the U.K. It was, however, not uniformly applied to all operators. Negotiation seemed to be particularly used in connection with larger operators and complex sites. Negotiation could replace the use of criminal sanctions or other legal forms for shaping behaviour of the RA, such as the VA.

Waste control officers would not just try to negotiate standards with the regulated but would also try to negotiate the normative appeal of legal provisions. Thus, in the field it was not a formal normative appeal of the law that seemed to count. Instead, waste control officers would attempt to provide incentives for compliance by reference to non-legal social orders like commercial aims and reasonableness. Bargaining between the RA and the regulated is not just carried out "in the shadow of the law" but also in the shadow of the actual social practices at waste management sites. This is achieved through consultation at the site licensing

stage, through waste control officers' knowledge of sites and through working plans. One reason for this is probably that apart from the guidance in WMP no.4 there are not much legal provisions on the contents of site licences (see also section 6 (2) COPA 1974). Furthermore negotiation can be promoted by shared cultures between the waste control officers and waste management operators. Finally, also the context of the waste control officer's job is important for understanding negotiation.

CHAPTER 10: INFORMATION AND PERCEPTIONS ABOUT WASTE MANAGEMENT FACILITIES

10.1 Introduction

In the following chapter I want to explore what role information plays in the construction of notions of compliance and non-compliance. How and what information is collected about regulated sites? How do we know what is compliance? How do the regulated know; how do the regulators know? What are the limits to gaining information about regulated sites?

Information is a key resource in interaction between the regulated and the regulators. The RA bases its evaluations of whether the regulated are complying on information they obtain about a regulated waste management facility. What aspects of the relationship between the regulated and the RA influence how information is evaluated?

10.2. How do waste control officers gain information about waste management facilities?

**Information gathered from the office and from the field:
differences between the U.K. and the German RA**

There were differences in the way supervision of waste management sites was carried out in the German and U.K. RA. In the German RA, waste control officers stayed most of the time in the office and worked from their desks. In contrast, in the U.K. RA, waste control

officers spent most of their time in the field visiting waste management sites. Thus, in evaluating if facilities were in conformity with legal regulations the German and U.K. waste control officers would draw on different types of information about the regulated process.

One of the reasons why the German waste control officers spent most of their time in the office was that the supervision and licensing of sites was not handled by different groups of waste control officers but had been merged into a single unit. The German waste control officers were now assigned a range of waste management facilities for which they were responsible both for licensing and supervision. According to the German waste control officers, this meant that they had to spend more time on the task of licensing than on supervision. There might have been also other reasons why the German waste control officers spent more time in the office. According to a German waste control officer, going out to field visits did not carry much prestige. One of the reasons for this was that field visits were considered as a task which did not require as much qualifications as the licensing of facilities. The waste control officer explained that being at the desk and thus in the office was important for advancing one's career through being visible and interacting with colleagues and section leaders. My observations confirmed this. I observed that a considerable amount of time was spent by the waste control officers who dealt with waste incineration plants

on meetings with their leaders in the RA to discuss and agree issues such as strategies of dealing with operators. In what circumstances would German waste control officers visit a site?

In the German RA there seemed to be two main situations in which waste control officers would visit waste disposal sites. Firstly, sites would be visited if there were specific complaints about them, for example from neighbours ("Anlaßüberwachung"). Secondly, sites would be visited at the end of the building phase. Under German waste management law the licensing of a waste disposal facility under § 7 (1) AbfG includes the granting of planning permission for the development to be carried out for setting up the waste disposal operations ("Konzentrationswirkung"). German waste control officers would visit sites after the building operations had finished in order to determine if they had been carried out in conformity with the planning permission in the licence.

In the U.K. RA, the tasks of licensing and supervision of waste management facilities were separated. There was a separate group of waste control officers whose only task was to supervise waste management facilities by visiting them and to a limited extent by checking written information such as section 17 notes. There was another group of waste control officers whose task it was to draw up licences for waste management facilities. Sometimes these waste control

officers would also visit waste management sites in order to gather information for the licensing procedure but they would supervise sites.

The German waste control officers had less field experience to draw on when evaluating sites. They had less detailed and practical knowledge about sites than U.K. waste control officers. They would not necessarily get to know about possible lack of implementation of legal provisions "on the ground". This could influence what they perceived as compliance or non-compliance.

Problems with relying on information about waste management sites to which access could be gained from the office

The quality of information which could be accessed in the office could be limited. A German waste control officer told me that written information would not always portray an accurate picture of a regulated site. For example, there would be changes in the process in practice but operators would not always send new plans to the RA. On some site visits to which I accompanied German waste control officers the officer asked the operator to provide new plans of the site to the RA because what the process looked like in practice did not tally in all respects with the plans the operator had sent in earlier.

Relying on information from the office could influence what the German waste control officers understood as compliance. I accompanied a German waste

control officer on a visit to a waste incineration plant he had licensed and which was in the process of being built. He had required in the licence special building provisions for the collection of rainwater at the site in order to prevent contaminated water from the area of the waste incineration plant seeping into the surrounding soil. When inspecting the building site the waste control officer told me that he was frustrated to see that what he had intended to get implemented through the licence apparently was not realized in practice. The pipes were not properly laid and the foundations were not right either. The waste control officer remarked:

'The applicant submits his licence application and on paper everything looks fine and good and then later in practice it looks completely different'.

Some German waste control officers said that various sources of information about the regulated process, including visits, were important for the supervision of sites. According to one waste control officer in the German RA, however, a good licensing procedure could reduce the need for supervision of a waste management facility through visits. During the licensing procedure the waste control officer would see so much information about the plant and check this thoroughly that there was less need for close supervision of the process. A good licence was supposed to put standards into place, so that the enforcement of them through site visits would be less important. In my view, however, in the absence of information about the state of a site, for example

through site visits, waste control officers had no way of knowing if the site was operating according to the licence.

This was confirmed by the view of another waste control officer who said that air emission data from a waste incineration facility which under a new project were planned to be submitted to the RA via a computer link could only provide a limited account of the regulated process. In his view it was important to get impressions also of other parts of the regulated process. A focus on the supervision of air emissions could mean that other possible areas for lack of implementation of legal provisions could be neglected such as the handling of the contaminated slag produced in the incineration process.

"Incident supervision" in the German RA

According to a German waste control officer, the term to describe the supervision of waste management facilities in the area of the German RA was "incident supervision" ("Anlaßüberwachung"). Supervision visits would be carried out only if there was a particular incident such as complaints by neighbours about a facility. According to the waste control officer, this meant few supervision visits. Not every neighbour would complain about emissions above the limits spelled out in the licence for a waste management facility. Hence,

failure to implement legal provisions would not necessarily come to the attention of the RA.

In one of the files on the supervision of a German waste disposal site waste control officers had recorded their observations when they visited a site after they had received a complaint about dust emissions. It was noted that the officers saw quite a few things at the site which were not in conformity with the site licence. For example, contrary to the site licence the waste disposal plant had never sent the monthly figures on incoming and outgoing waste to the RA.

Furthermore the waste control officers detected discrepancies between information in the site diary on the emptying of oil traps and interceptors and the "actually carried out measures". Information on the invoices about the frequency of the work carried out by the companies who emptied the oil trap and the interceptor did not tally with the information recorded in the site diary. Also, according to the site licence the waste disposal plant was supposed to be a member of a self-regulatory provision which consisted of a supervision team set up by the trade association. But the plant was not a member yet. Unless the officers would have visited the site in connection with the complaint it would have been unlikely that they would have found out about the failure to implement other legal provisions at the site.

"Incident supervision" in the German RA involved less field visits than were carried out in the U.K. RA. It meant less information about operating practices "on the ground" of waste management facilities. This could influence what aspects of the operating practices of the regulated became evaluated as conforming or not conforming with legal provisions. Some failures to implement legal provisions will remain below the threshold of attention and knowledge of waste control officers.

Organizational issues and the collection of information

The way different tasks were organized in the RA could influence what the waste control officer would be able to define as implementation of legal provisions or failure to implement them. A U.K. waste control officer told me that not he but a different unit in the RA was responsible for dealing with section 17 notes which contained information about the waste loads that the waste management plant took in. Thus, he did not really know what waste loads were coming into the waste management plants he supervised.

This was, however, important in order to evaluate if the plant only took in wastes for which it was licensed. The unit which dealt with section 17 notes would only give the notes to him if a new waste stream came into the plant. Since the waste control officer did not routinely see all the section 17 notes for the waste management

sites he was supervising he did not know when waste had been brought into a site. This made it difficult to monitor the site licence requirement that waste should only be stored for a certain amount of time at a transfer station. Thus, the way how the waste control officer's task was organized in the RA could have an impact on the kind of information he would have about the regulated process. This in turn would influence what would come to be evaluated as conformity with site licence provisions.

Overall perceptions of sites rather than implementation of individual site licence conditions counts

It seems that when evaluating a site, what mattered was an overall perception of the site, not the question whether conditions were implemented in a very detailed manner. A U.K. waste control officer went on a supervision visit to a site which usually involved a walk around the site and a conversation with the site manager. The site handled waste oils. After the visit the U.K. waste control officer told me:

'The yard is very good, it has good concrete and is very clean'.

This statement was basically a positive assessment of the limited pollution potential of this site. There was little oil contamination that could for example affect the groundwater. The officer's perception was not an evaluation of the implementation of detailed site licence conditions.

Similarly during another site visit a different waste control officer told me that:

'You see by instinct if a site is alright. You know with this site it is clean, the yard surface is alright'.

Perceptions of the regulated process would not just be related to conformity with legal rules in a narrow sense but seemed to encompass a broader view of what is a 'good' site. In files on the supervision of German waste management facilities there would be no entries that said for example "condition 6 of the licence for this process is complied with". Instead file entries said things like "no irregularities", "good housekeeping" etc. Also the enforcement policy of the U.K. RA in relation to licensed sites said:

"The assessment of waste disposal activities can be highly subjective [my emphasis] and the topic does not lend itself to be structured within a set of hard and fast rules [my emphasis]. For this reason, this policy relies on the experience [my emphasis] of all officers who have cause to monitor sites, who shall have regard for advice that may be given by HMIP, other appropriate advice and in particular to specific policies that may be determined by the [local government committee]. Where incidents are witnessed or breaches of conditions are noticed this must be drawn to the attention of the [manager] of the relevant division".

Thus, cultural knowledge of waste control officers acquired over years by experience would be relevant for assessing sites not just legal norms. This also indicates that sites empirical compliances was assessed on an individual basis rather than on the basis of uniform rules applied across the board without considerations for site specific circumstances.

A focus on 'visible' aspects of a waste management site

Evaluations of waste management sites by U.K. waste control officers hinged on particular aspects of it. The main supervision activity of U.K. waste control officers were visits to waste management sites which involved walks around the site and conversations with, usually, a site manager or site chemist. Supervision of the regulated process seemed to focus particularly on the visible aspects of it. Hence, what became evaluated as compliance or non-compliance was often what could be seen during a supervision visit. What became evaluated as compliance or non-compliance could be just one chunk out of a range of activities that could have been evaluated.

Written documents about the regulated process like site diaries etc. which operators were required to keep under the site licence seemed to be seldom used in enforcement practice both in the U.K. and German RA. During site visits to which I accompanied waste control officers they would seldom ask the operator to show them site diaries etc. Most of the information waste control officers gathered and on which they based evaluations about 'compliance' of a waste management site was visual information. This was derived from inspecting the process and securing explanatory information from a site employee about the situation at the plant.

Some German waste control officers said that they had not much time for the supervision of sites and thus

they had even less time to look through paper work on the sites. Furthermore some of the U.K. waste control officers told me that one of the reasons why they had chosen to become a waste control officer was that they did not want to sit in an office sifting through papers. Instead they were keen to go out to site visits at waste management facilities.

Thus, when evaluating if behaviour was in conformity with legal provisions the waste control officer focussed on a particular type of information and thus on a particular aspect of the regulated process. Site diaries would allow for example checking to see if the waste taken into the site by the operator conformed to the range of waste the facility was allowed to take in according to the site licence.

Visual inspections of the process through a site visit would focus more on issues like was there any equipment that was malfunctioning, how was the waste treated, incinerated, stored landfilled etc. Were basic requirements for the type of operation complied with? For example, was the waste only stored in the area that was licensed, was the landfilled waste adequately covered at the end of the working-day etc.?

What becomes evaluated as compliance or non-compliance?

Visible aspects of a waste management facility seemed to be more likely to be evaluated for conformity with legal provisions than more complex and less visible

aspects, such as procedures for the inspection and analysis of incoming waste. This was the case when I accompanied a U.K. waste control officer to site visits. The walk around the site usually would not involve the checking of the procedure used.

On one occasion, since it was raining, the waste control officer went into the site laboratory. This was quite a rudimentary laboratory consisting of a small porta cabin with a sink, a ph-meter an ion counting machine and one kit of Merck dip kit strips for zinc. The U.K. waste control officer explained to me that this was only a small laboratory where the waste loads arriving at the facility would be checked for conformity with the description given by the producer of an initial sample of the waste stream.

According to the waste control officer, a full analysis of the initial samples of waste streams was carried out in a bigger laboratory when the waste stream was first offered to the treatment plant. The U.K. waste control officer did not say if in his opinion the small laboratory was adequate to test incoming waste loads for conformity with the site licence restrictions on the kind of waste which could be taken into the facility. Given the fact that at the time that I saw this laboratory there was only testing equipment for one heavy metal i.e. zinc, it is questionable if incoming wastes could be assessed as being able to be taken in under the site as required under the site licence.

Standard forms

The occasional use of standard forms in the U.K. RA for writing reports on site visits seemed also to promote a focus on particular aspects of a site. These preprinted forms contained boxes that could be ticked in order to indicate the state of a waste management facility. These forms had a general common format but were individualized according to what particular type of facility they should describe - a landfill site, a waste treatment site, a dry waste transfer station etc.

These forms promoted the development of particular images of waste management facilities. They listed issues for site supervision which focused particularly on the visible aspects of the operations such as "pipework, conditions of yard surfaces, security, lighting, primary road" etc. Other issues which were also regulated through site licence conditions were less prominent. Some of these were important, such as the condition relating to the checking and analysis of incoming wastes. This would be important in order to assess conformity with the list of wastes that a facility was allowed to take in under its site licence. But the preprinted forms did not refer to such procedures.

There was the category "waste type - e.g. difficult or other wastes" on the preprinted form. But this section appeared to provide only an opportunity to tick if such

waste was taken in or not at the inspected facility, not to state how it was analyzed or if it was analyzed.

Furthermore there was nothing on the preprinted form for the treatment plants that would refer to the site licence provisions that waste should only be accepted if it had been sampled and analyzed beforehand. This was despite the fact that there would usually be in site licences a couple of conditions relating to the sampling and analysis of waste loads arriving at a site. There also seemed to be no category on the preprinted report forms which referred to another frequent site licence provision for treatment plants. This was that discharge pits should be cleaned out in case incompatible loads were discharged.

How important this procedure is is illustrated by the fact that a serious accident occurred at one treatment site which was caused by non-adherence to this procedure. Toxic fumes were emitted from the discharge pit where a waste load which was discharged reacted with the rest of a previous waste load in the pit. The site was prosecuted by the U.K. RA for this accident.

On the preprinted forms there was no item that dealt with the amount of waste that a facility was allowed to take in. The preprinted report forms in the U.K. RA covered only a segment of legal requirements of the site licence. They seemed to focus particularly on visible and static aspects of site operations rather than procedures

for handling waste. Thus, standard forms might contribute to the creation of particular images of regulated facilities. These images put the spotlight on the evaluation of certain aspects of the operations for evaluations of compliance at the expense of others.

10.3. Limits of the RA to gaining information about waste management facilities

Introduction

After having outlined in the previous section what are sources of information about regulated waste management sites I want to illustrate in this section what are constraints on the collection of information about sites by waste control officers.

Difficulties in collecting meaningful information

It could be difficult for waste control officers to get meaningful information about waste management sites. Unless information could be collected over a period of time, no more than just a "snapshot picture" of the regulated process would be provided, that is, information that could be limited or misleading. While the U.K. RA did undertake continuous visits to sites over some time, in some situations, information about a site remained a mere "snapshot". The operator of a waste incineration plant told me that a consultant had tested air emissions of the incinerator. According to the operator, these test reports did not provide an accurate picture of the

process. He told me that the report only showed conformity with air emission standards for that day. But on another day with a different waste composition the emissions tests might produce different results.

In Germany too, a waste control officer told me that he found it difficult to get an insight into the regulated process for similar reasons. According to him, he would only get a global and general rather than a detailed understanding of a waste management process during site visits. He could get to know for example the state of repairs at the facility, the general condition the plant was in and its overall cleanliness. But he would not get to know 'details'. In his view operators would often show around officers and hence he would only see what he was supposed to see. Thus, difficulties for collecting information about the regulated process could be related to the "snapshot picture" nature of some of the information. Another difficulty for collecting meaningful information about the regulated process could be that information sometimes had to be collected in adverse circumstances.

Collecting information in adverse circumstances

Collecting information about the regulated process was not always easy. A U.K. waste control officer explained to me:

'Operators can be funny. They let you wait a long time and then I walked into the room and [an employee at the site] said: 'I think the room is full already'.

The waste control officer continued:

'I did not know what to say because it would have been immediately confrontational, so I just left the room'.

According to a U.K. waste control officer, some operators would be reluctant to provide information about their process because they argued that certain information was commercially confidential. For example, one waste incineration plant which operated a new process did not want to provide information about it. According to a licensing officer, this made the task of licensing and regulating the facility through conditions more difficult.

One U.K. waste control officer told me that on a few occasions, officers had been asked not to come onto a site or had been assaulted by operators. According to him, sometimes waste control officers would go out to site visits in pairs because this would help to corroborate information collected at sites and would make them less vulnerable to the risk of physical attacks.

Information about "moving targets"

Limits to gaining information about the regulated process could make the evaluation of a process as conforming or not conforming to site licence standards more difficult. To some extent, what was to be evaluated appeared to be a "moving target". It could be difficult to describe waste both in the U.K. and Germany. A sample of a waste stream would be brought into the German or

U.K. laboratory for a detailed analysis. This analysis might find that the waste could be treated and taken into the plant.

Sometimes, however, when the actual waste load arrived at the yard the waste was quite different and in fact could not be treated. According to the U.K. laboratory technician, this could be due to the fact that the selection of samples was not necessarily representative of a load. When a sales person took a sample of the waste he might only collect waste from the top part but not from the lower depth of a liquid where the waste composition could be different. Sometimes it was difficult to obtain representative samples of waste streams even if a better sampling technique would be applied. Particularly at the German waste management plant, it was nearly impossible to take representative samples of heterogeneous waste loads. That information about waste might be difficult to collect because waste loads could be a "moving target" could be utilized by the regulated in order to show that they were implementing legal provisions.

How information about "moving targets" was strategically managed at the German waste management facility

Difficulties in describing wastes could be used by the regulated to manage and produce a perception of compliance. According to one of the employees from the yard of the German waste management plant, the system for

testing wastes for conformity with acceptance parameters of final disposers could be strategically managed. A waste sample could be taken in such a way that it could produce conformity with the acceptance parameters. The waste could be quite heterogeneous so that a sample would not necessarily take in all of the waste components of a waste load. This could assist the German waste management plant in achieving compliance with acceptance parameters of final disposers.

Some of the more 'problematic' substances such as a load of paint waste that contained a high concentration of chlorinated solvents, could be left out from the sampling. An analysis of the sample would then show a level of chlorinated solvents in the analysis that would be acceptable to the final disposer.

According to one of the employees working on the yard, this system of taking samples selectively worked on a rather subtle level. According to him, it could be detected from the foreman's tone of voice, when he gave an order to take a sample of a waste load, if he wanted to have the waste load approved in the analysis through the laboratory or if he wanted it rejected. The employee would ensure a suitable waste mix in the sample accordingly.

Thus what information would be provided to the RA could be influenced to some extent by the German waste management plant. This could be strategically managed so

that information about the waste load could show conformity with the acceptance parameters of final waste disposers. But a different sample of the load might have showed non-compliance.

According to the staff from the German laboratory, the analysis of samples for solid wastes only were indicative of the sample rather than the waste stream as a whole. Retesting done on a different portion of waste from the waste sample was sometimes carried out and could lead to completely different results.

These analyses were nevertheless carried out on a routine basis and carefully recorded and supplied with the "EN" to the RA. The RA would authorize or reject the "EN" on the basis of this information. The legal provisions of the "EN", however, envisaged that the analysis would provide information about the waste stream, not just the particular waste sample tested.

Another reason for difficulties in describing waste loads accurately was that waste loads could be contaminated by previous waste loads. At the U.K. waste treatment plant, if a tanker would not be washed out between carrying two loads the second load sampled could contain traces from the first load.

Trust, self-regulation and information

It seems that in some situations the German RA would rely more on trust or on what it perceived as indicators

of conformity with legal provisions rather than complete information. Some requirements about the provision of information to the RA had a self-regulatory element. In a number of cases the frequency of monitoring could be reduced if certain results were obtained. In a German site licence it was agreed that if weekly test results showed to the German RA that parameters were observed then the testing frequency could be reduced to a monthly interval.

The RA had no means of knowing if during the period of reduced testing there would in fact be observance of discharge parameters. In the absence of information about this, trust in the regulated's behaviour would be required. Hence, perceptions of a site based on indicators such as conformity with emission limits over a certain period of time could influence if a site was or was not considered as implementing legal provisions. Evaluations of a site as conforming with legal provisions would not necessarily be based on complete or continuous information about sites.

Information asymmetry: The regulated know more about the regulated process than the waste control officers

Some of the German waste control officers thought that the operator of a waste management plant had an advantage over them as far as information about the regulated process was concerned. As one German waste control officer put it:

'Technically and as far as his knowledge is concerned the operator is always one step ahead. You have to ask the operator what it is he is doing'.

A waste control officer told me that in her view the regulated knew their process and its particular problems best. Hence, only the regulated would really know how to solve particular technical process problems that lead to a failure to observe legal provisions.

Also, one of the leaders of a team of German waste control officers told me that it was impossible for them to supervise exactly what waste loads were going into the plant. If a plant could technically handle a particular waste stream but was not licensed for it then it was not possible for the waste control officer to get to know about this and prevent it. According to him, this was an aspect of the operations that was outside the scope of knowledge and control by the waste control officers.

10.4. Information and the management of trust

Introduction

Information provided by the regulated about their process was an important resource in negotiations about standards for compliance. Information about a waste management facility did not exist in a vacuum but was traded in the relationship between the regulated and the RAs. How information became evaluated and utilized could be influenced by the relationship that exists between the regulated and the RAs. In this section I want to look at

one aspect of this relationship, the management of trust, and the way it might have an impact on information.

Information, trust and negotiation

Negotiation between the regulated and the regulators required a degree of trust between them. For example, during supervision visits the waste control officer would have to ask the operator about the state of the operations at the site. Sometimes waste control officers had no way of knowing if information provided by site employees was accurate. Also the decision to trust or not to trust information provided by staff could determine if the waste control officer would probe further or accept an explanation. Trust was necessary in order to build up a relationship and get a conversation going. Waste control officers could not always pursue suspicions and questions.

At a German waste incineration plant a waste control officer asked the operator during a visit if measuring devices were available in the room from which the employees operated the loading of the incinerator. The operator replied that some measuring devices were available in this room. Otherwise the shift supervisor would tell the employees if there would be a rise in the emission of particular substances. Thus the loading of the incinerator could be adjusted accordingly. The waste control officer seemed to accept this explanation and did not question it further. But he could not know if this

was an accurate account of what happened in reality on a day to day basis.

Risks in the negotiation of standards

To trust operators was not necessarily perceived as an easy task by waste control officers. One German waste control officer said that operators sometimes did not promote trust into them. For example, on one occasion while she was visiting a site a waste control officer had noticed the following. Under the site licence the operator was required to use a carbon filter to scrub flue gas emissions. But he had simply switched off the carbon filter. The instrument for measuring the flue gas emissions had been switched on as required by the site licence. The control measurements were carried out but without the carbon filter. According to the waste control officer, this story illustrated that trust into operators that they would implement site licence requirements could be sometimes misplaced.

One of the reasons why trust might be a problem in the interaction between the regulated and the regulators is that negotiation and the exchange of information occurred in what was ultimately an adversarial situation. According to a German waste control officer, negotiations with operators for the licensing of large plants could be a task that would require considerable skill. The waste control officer explained that during the negotiation sessions the operator would also take notes on what had

been said and agreed. In order to keep control of the events it was necessary for the waste control officer to have 'experience, a good memory and integrity'. According to the waste control officer, operators would sometimes try to contest what was said during such meetings. Also, at the end of a negotiation session between an operator and the RA which I observed a senior representative of the RA told the operator that it would not make sense if different versions of events would appear in the operator's and the RA's protocol of the session. This illustrates that to some extent the relationship between the regulated and the RA might have been adversarial. Conflicting views on the contents of negotiations could be one aspect of this.

Trust, poker and "manoeuvring through the backdoor"

Waste control officers could not always check out the reliability of some of the information provided by operators. Thus, one difficulty in negotiations could be to what extent the RA would trust information provided by the operator. For example, a German operator of a waste storage facility and a waste control officer negotiated the kind of waste the plant would be allowed to take in. The waste control officer said that fly ash and slag from waste incineration plants should be excluded. The operator then suggested that they wanted to take in "gypsum waste with noxious contaminants" ("Gipsabfälle mit schädlichen Verunreinigungen"). The officer probed during the negotiations with the operator what sort of

wastes the operator wanted to take into the plant under this description. The officer explained during the meeting that he wanted to prevent the operator from taking in residues from waste incineration under this waste description 'through the backdoor'.

The leader of a team of German waste control officers who supervised waste incineration plants referred to problems in trusting the regulated during negotiations for a licensing procedure. He said that he was not quite sure how much the operator really knew about his process and thus how good the information he was providing was to the RA. He commented on this by saying that the operator 'sits there with his poker face'.

Limits to information about the regulated process meant that waste control officers had to decide on what aspects they would trust the regulated's statement about the waste management facility and on what aspects they decided to probe. A German waste control officer was involved in the definition of the start-up, shut-down and normal operating status of a waste incineration plant. She told me that this was an issue where she had to trust the operator about the information he provided. It was all detailed and experience-based information that only the operator could have.

Furthermore, during a visit to a building waste recycling facility, a German waste control officer

checked if a licence condition had been implemented. According to the licence condition, no permanent work places should be created in the hall where building waste was presorted. During the site visit the waste control officers saw two employees sorting building waste by hand. The waste control officer asked if there were permanent work places at the site for presorting building waste. The operator replied:

'Well, in principle not but sometimes large pieces which the GCB can not move have to be sorted out. But otherwise we do not sort by hand'.

Another waste control officer continued:

'So, you mean the work description 'sorting' does not exist?'

The operator replied:

'No'.

It seems that from the operator's statements the waste control officers concluded that no permanent work place 'sorting of building rubble' existed.

10.5. Conclusion

In this chapter I illustrated that information about regulated waste management sites is not a straightforward concept. Several factors have an impact on what is information for the purposes of evaluating compliance with legal requirements at waste management sites. Waste control officers do not get to know all possible information about a site but the information they get constitutes a segment out of the possible range of

information that could be obtained about a site. There are several factors that influence what segment of information waste control officers get to know about waste management sites. Firstly, there are practical limits on what information they can gain about the regulated sites. According to some waste control officers, there is an information asymmetry between the regulated and the waste control officers. Operators who run day-to-day their waste management process know it better than waste control officers. Furthermore, it seems to be in the nature of waste loads that they frequently change and are difficult to pin down by accurate descriptions. These difficulties in describing waste loads can assist the regulated in demonstrating compliance to the RA. Testing procedures can be adapted, in the case of heterogeneous waste loads, so that the test results show compliance with waste acceptance parameters. Secondly, the way waste control officers' work is organized can influence what kind of information waste control officers obtain about the regulated sites. The licensing and supervision of waste management facilities was merged into a single unit in the German RA. This meant that the German waste control officers had less time than their English counterparts to collect information about regulated sites through field visits. Thirdly, supervision practice leads to a focus on the collection of a particular type of information about regulated sites at the expense of others. It seemed that waste control officers collected information particularly

on the visible aspects of running a waste management site at the expense of more complex and difficult aspects such as procedures for the testing of incoming waste loads. Also, waste control officers seemed to be more concerned with an overall picture of a site rather than the detailed implementation of particular site licence conditions when evaluating sites for compliance. Fourthly, what becomes understood as information is influenced by the fact that information is exchanged in the partly adversarial relationship between the regulated and the RA. What becomes accepted or not as 'information' can be influenced by interpersonal aspects of this relationship, such as trust. What is perceived as valid information about the regulated process in turn influences what is understood as compliance or non-compliance.

CHAPTER 11: HOW DO OPERATORS MANAGE INFORMATION AND PERCEPTIONS ABOUT WASTE MANAGEMENT SITES?

11.1. Introduction

In the following chapter I will explore how the regulated manage information and, through this, perceptions of regulated sites. Can the management of information assist the regulated both in achieving what they want to do and at the same time being considered as complying with legal provisions? On what basis do the regulated and the regulators know what is compliance? How do we know? Ultimately, these questions are concerned with the nature of information. Is information neutral or can it be partisan? In this chapter I will explore what impact different scope and types of information about a regulated waste management facility have on the evaluation of a site as conforming or not conforming with legal provisions. What are strategies used by the regulated to manage perceptions of their sites?

11.2. The management of perceptions at site licensing stage

U.K. licensing officers told me that information presented in licence applications could be used by operators to invoke a particular image of the regulated process. Thus, it was necessary to check information provided in documents submitted for licence applications. For example, an operator had applied for a dry waste transfer station. The licence had been given for comments

to an officer from the enforcement section of the U.K. RA. He noted:

'I was not quite sure what was fact and what was fantasy. I am concerned about the hospital waste. In its worst reading it will be a clinical waste transfer station'.

Operators in some cases were vague on the actual shape of their operations. Setting standards for sites during licensing required questioning some of the images of a process presented by an operator. This was necessary in order to regulate the actual activities going on at a site rather than regulating the activities at the site as described in the licence application. The actual activities at sites might be different from descriptions of them in the licence application.

Information and control at the stage of site licensing

What and how much information is provided by the regulated at the stage of site licensing can influence the scope of control of the RA over the site. The following story illustrates how the management of the supply of information by the regulated could influence to what extent they would be regulated through site licence conditions.

According to the leader of the group of German waste control officers who supervised waste incineration plants, the German RA had been able to write an air emission limit for dioxin into one licence which was below the requirements of the legal regulations of the 17. BimschV (17. BimschV. vom 23. Nov. 1990, BGBl. I S.

2545, ber. S. 2832). He explained that the RA had been able to do this 'because the operator had made a mistake'.

During the preliminary negotiations about the site licence the operator had specified what sort of incineration technology and what type of pollution abatement equipment he would install. The RA then knew how much dioxin the plant would roughly emit and with what emission limit the plant would be technically able to comply. The RA wrote an according emission standard in the licence which was below the legal requirements which the RA would have otherwise chosen as a standard. The leader of the group of waste control officers who supervised waste incineration plants told me that because the operator's technology could conform with this low standard the operator could not argue against it. This example shows that in some cases the detailed supply of information can expose the operator to more or stricter regulation by the RA than would be the case if the RA knew less.

Providing insufficient information

A common difficulty both for the German and U.K. RA at the stage of licensing was that often the prospective operator would submit insufficient information about his process. For example, sometimes the information would not be detailed enough to enable the RA to draw-up a licence. An indicator of this would be that sometimes both in U.K.

and German licences there were conditions which required the operator to submit further information.

Not to provide certain information could be an attempt by the regulated to try to avoid the imposition of conditions on a particular issue. For example, a U.K. waste control officer from the licensing section of the RA told me that an operator had said to him that he was not prepared to submit a detailed description of his process because this would amount to 'putting himself into a strait-jacket'.

Providing a lot of information

Sometimes the problem would not be too little but too much information about the regulated process. According to one German waste control officer, if the regulated provided a lot and complex information about the process then this could be a tactic for confusing the waste control officer. For example, for the licensing of a large waste incineration plant several arch files were submitted by the operator with information about the regulated process. A waste control officer told me that they would say that they had checked all this material but in fact only a certain amount of it could be checked. Different degrees of intensity in checking these materials had to be applied. Some material could only be checked for plausibility.

Managing perceptions of the regulated process

The way a licence application would be written and in particular the amount and detail of information provided in it could influence what the final licence would look like. According to a German waste control officer, he preferred it if the operator would provide a detailed description of the process and how it was operated because it would save time in licensing the facility. This information about the process would be incorporated in the licence. For example, one of the first conditions in the licence would require the operator to run the waste management facility as described in his own information about the process. If this information would be quite detailed then this would require less additional conditions to be imposed to regulate further aspects of the waste management facility.

Thus, to some extent the operator could write his own licence conditions. According to the German waste control officer, it would be important that the operator 'emphasized the right things' in the licence application. This was important for convincing the waste control officer that an issue was already sufficiently regulated through the operator's own procedures without requiring further licence conditions.

Images of sites created at site licensing stage and in the field

German waste control officers knew sites both from licensing and supervision in the field. What was considered as compliance could be influenced by perceptions they had gained of the regulated at the stage of site licensing. During a walk around a waste management site a German waste control officer observed that some health and safety provisions were not implemented. He explained to me that this was not his area of responsibility but had to be dealt with by health and safety officers.

There was also a technical problem at the site because the waste management process could technically not adequately cope with the type of waste which was taken in. After the walk around the site the waste control officer expressed satisfaction with the state of the facility. He said:

'Well, I also know from the licensing procedure, when we got to know the operator better, that they were reliable and they made a good impression. For example they always responded to our requirements, they improved the licensing application and supplied further information'.

Hence perceptions about the regulated which the waste control officer had gained during the licensing procedure might have influenced what a waste control officer would consider as a 'problem' at a site and what would be evaluated as requiring or not requiring further action.

Another German waste control officer also told me that during the procedure of licensing a plant she would start to get a picture of the facility, if it was a good or a bad facility. One could see that for example from the quality of the licence application documents. The waste control officer continued:

'I have seen internal guidance that says that waste management facilities should be visited regularly. But what does 'regularly' mean? There are facilities where I know I can let them get on with the job for half a year without a visit and there are facilities where I know, when I leave the doorstep everything goes wrong'.

11.3. The management of perceptions in the field

According to a U.K. waste control officer, the regulated would take active steps to give a positive impression of their process to the waste control officer. One U.K. waste control officer told me that at one landfill site

'the roadsweeper will appear miraculously when I turn up. It goes like that: If the Council comes around, we must keep them happy'.

Standard excuses

Part of the attempt to give a positive impression of the regulated process was that operators would make excuses for the failure to implement legal provisions. According to the U.K. waste control officers, there were some standard excuses which were sometimes recited as a joke by waste control officers in the office.

For example, if a road near a waste management site, such as a landfill site, was very muddy and dusty and the U.K. waste control officers remarked upon that to the operator then some standard excuses were:

'the roadsweeper has broken down' or: 'the brush of the roadsweeper is broken'.

If the waste level at a waste transfer station was too high:

'the bulker has broken down' or: 'the compactor at the landfill site has broken down' or: 'the driver is off sick'.

Hence determining the state of a site would require to look through some of these excuses.

Information management and evading control by the RA

Sometimes operators would try to shield aspects of sites from evaluations as compliance or non-compliance. In some cases an operator would only provide information after he had already carried out what he wanted to do. The RA would only approve with hindsight what the operator had done.

In a file on the supervision of a German waste treatment plant I had read that an operator applied for an extension to the range of wastes they were allowed to take into the plant. The operator said in his application that he would only now apply for these new wastes because beforehand they were not able to attach with "sufficient accuracy" a waste code to these wastes.

This seems to suggest that the operator had already taken in these waste streams for some time but declared them under waste streams for which the plant was already licensed. When the operator was able to apply specific waste codes to these new waste streams he contacted the RA to get the new waste streams approved for treatment at the plant. Thus, by controlling information about the regulated process the operator could decide for himself in some cases what aspects of his operations would be evaluated by the RA for compliance.

Limits for the regulated to create a positive image of a waste management facility

Waste control officers were aware of attempts by the regulated to create positive images of the regulated process. For example, a new manager at a U.K. waste management site accompanied a waste control officer on his visits and took down notes of what the waste control officer said in a little note book. The waste control officer said to me:

'This might have been just to impress us'.

Another U.K. waste control officer told me:

'You have to let them know that you can call their bluff'.

In a file on the supervision of a German waste incineration plant a programme for the supervision of the plant had been laid down by a waste control officer. The waste control officer had noted:

"with the aid of written information and the actual situation"

it should be checked if halogenated hydrocarbons and aromates were burnt at the same time. The waste control officer's note in the file indicates that he was aware that there might be discrepancies between written information about the process and the actual situation in practice.

Images of regulated sites and enforcement responses

Images of regulated sites could have an impact on what enforcement response the site might encounter from the RA. For example, there were different inspection frequencies for various sites in the area of the U.K. RA. There was a considerable number of waste management sites in the area of the RA. Given limited resources, decisions had to be made on how to distribute them. Some sites, which were classified as 'problem sites' could attract enforcement visits of up to four times a week, while other sites which were considered as small and 'unproblematic', such as small inert, dry waste transfer stations, would be visited much less frequently.

11.4. Managing perceptions through consultants' reports

Introduction

In the following section I, will explore one particular strategy of the regulated for the management of information. These are consultants' reports ("Gutachten") about waste management sites. This was an aspect of the management of information in the German RA

which I did not come across during my field work in the U.K. RA. According to a German waste control officer, consultants' reports would be obtained if there was a serious enforcement problem at a regulated facility. Either the operator or the RA could commission a report.

Consultants' reports indicate that for understanding how evaluations of compliance come about it is not sufficient to look only at the relationship between an operator and the RA. Third private parties like consultants can be important for understanding how compliance is achieved. In Germany, private consultants not only work on behalf of operators but also carry out some of the RAs tasks. Consultants' work is an important aspect of the changing relationship between operators and the German RA, some of which involves the privatisation of public authorities' work.

Consultants' reports as constructed accounts

It seems that operators tried to utilize consultants' reports to create favourable images of their sites in two ways. Firstly, there is the image that consultants' reports are a source of information provided by an 'independent', professional, possibly neutral and objective party. For example, a craft trade association ("Handwerkskammer") had issued a guide for operators on how to approach the licensing procedure with a RA. This guide stated that companies should think of employing consultants because they were often trusted by the RA.

This could be to the advantage of the operator. The image of a consultant as being a neutral, and independent third party who might carry some goodwill with the RA could be used by the regulated. Secondly, the contents of a consultant's report might assist operators in putting across what constituted in their view compliance with legal provisions.

In the view of a German waste control officer, these reports could play a role in the management of information by the regulated. According to this officer, the consultant could be a neutral "middle-person", but more likely, the consultant would probably take into account to some extent the operator's views and interests given the fact that he was employed by the operator and paid by him (in German the waste control officer said: 'Wes Brot ich freß, des Ding ich schreib'). The waste control officer explained to me that the operator would go through drafts of the report in order to exercise some control over its contents. This indicates that the waste control officer was aware of operators' attempts to use information to portray favourable impressions of the regulated process.

Reports on air emissions

In my view, consultants' reports were not necessarily a completely independent, neutral source of information about waste management facilities but were drawn into the process of adversarial procedures in the

licensing of waste management facilities. The German RA was involved in the licensing of the technological upgrading of a waste management facility. As part of the upgrading of the facility the RA attempted to reduce the level of air emissions from the incineration plant. The RA had asked the operator to provide a consultant's report about air emissions from the plant. In fact the consultant for the operator gave various different versions to the RA of air emissions from the waste incineration plant. Finally, the consultant presented to the RA a report which was described as the final result. During a meeting between the operator, the consultant and the RA, which I attended, a waste control officer asked the operator if this result was

'still a scientific result or a negotiated result'.

Thus, consultants' reports seemed to be drawn into the partly adversarial relationship between the RA and the regulated. Information presented in these reports was not entirely neutral but part and parcel of a process of adapting representations of reality to various interests.

Consultants' reports can help operators to put their point of view across to the RA

Sometimes consultants' reports could be a tool for the operator to state his view of the situation more forcefully. A consultant's report would enable the operator not just to make arguments about costs or practicality in negotiations with the RA, but

consultants' reports could back up an operator's view through technical arguments. At one of the waste incineration plants a waste control officer was supervising, she asked the plant to show to her how they were intending to conform to new regulations which had just come into force ("TA Sonderabfall"). As a response to this the operator commissioned an environmental consultancy to write a report. According to the waste control officer, the report would be quite useful for the task of supervising the waste management facility because she herself would not have enough time to get out of the office and conduct a thorough examination of the plant in order to check how they were implementing the new regulations. But the environmental consultant who would write the report would have time to conduct such a detailed investigation.

The report summarized the legal provisions of the new regulations. These summaries partly put forward their own interpretation of the legal provisions. For example, some smaller parts of the legal regulations were left out. The provisions on emergency plans said that a site diary should be kept by the operator according to section 5.4.2. of the "TA Sonderabfall". This requirement had been omitted in the consultant's summary of the legal provisions. This was criticized by the waste control officer.

The justification given by the consultant for her interpretation of the legal provisions was that the

regulations were only guidance to the administration ("Verwaltungsvorschrift"), they were not binding on the operator. Only the aims not the precise details of the regulations had to be implemented. The legal validity of this argument is questionable. It is right that the general position is that administrative regulations ("Verwaltungsvorschriften") are primarily only binding on the administrative authority not on third parties such as the operator. The exact extent of the effect of these "Verwaltungsvorschriften" on operators is, however, a matter of dispute. Erichsen et. al. (1992:137, _ 7 IV 4, Rz. 46) for example argue that "Verwaltungsvorschriften" like the "TA Abfall" can be binding on third parties.

Moreover, part of the argumentative strategy of the consultant's report was to classify behaviour of the operator into three categories. These three categories provided answers to the question if the requirements of the new regulations were complied with at the plant. These were "requirements fulfilled", "requirements partly fulfilled" and "requirements not fulfilled". At the end of the report the author had listed all the various parts of the new regulations. In an adjacent box it was ticked if these requirements were "fulfilled", "partly fulfilled" or "not fulfilled". None of the boxes for "not fulfilled" was ticked. Instead most of the time "fulfilled" was ticked or it was entered "probably fulfilled from August 1992 onwards" or "fulfilled very soon".

At the waste management facility for which the report was written there was also a small chemical-physical treatment plant. In the final tank of the treatment plant was a device which measured the turbidity of the liquid, which was to be discharged to sewer. The measurement of this parameter would enable control of conformity with the parameter of suspended solids in the effluent. If the measurement showed that there was too much turbidity then the effluent would need further treatment before it could be discharged in conformity with the discharge consent. According to the consultant's report, the turbidity of the effluent was no longer measured because algae grew on the device and thus prevented accurate measurements. The report argued that this was an acceptable situation since analyses of the contents of the final treatment tank were carried out before the effluent was discharged to sewer. According to the report, a 'too high' solid contents could probably be detected at that stage.

It was, however, a central theme in the requirements of the "TA Sonderabfall" to require automatic measurement devices for various stages of the chemical-physical treatment process for better process control. The consultant's report put forward various arguments why at the plant it was equally safe and acceptable not to have automatic measurement devices but to rely on manual controls. It was a common strategy employed by operators to argue that failure to implement control devices

required under regulations was not a problem because they had alternative ways of controlling the process. The consultant's report also tried to portray a positive image even of those aspects of operations which might not have been in compliance.

'From the current non-compliance of requirements cannot be derived an immediate need for action, since soon a new intermediary storage area will be built which will comply with the requirements of the "TA Abfall".

In another part the report said:

'Sufficient amounts of sorption materials have to be available for dealing with spilled or leaking waste'.

The consultant's report remarked on that:

'In the acceptance area it is not necessary to have sorption materials because the acceptance area slopes down over about 5 metres to a discharge point'.

The waste control officer criticized the fact that for the most part, the consultant's report suggested solutions for technical changes which would only involve little expenditure for the operator: 'the consultant's report envisaged mainly solutions for DM 2,50'. According to her the report failed to mention and engage with the more difficult problems for the implementation of the "TA Sonderabfall" at the waste incineration plant. These more difficult problems would cost more money to solve.

Also, to some extent the consultant's report tried to justify current practices at the waste incineration plant rather than advocate changes in order to conform to the new regulations. For example, the new regulations

(para. 5.4.3. "TA Sonderabfall", 1992:85) recommended that the plant should have a log-book that would assemble information from various different parts of the plant (e.g. the laboratory, the waste acceptance area etc.). The consultant's report said that it was not practicable to collect all the information together in one common log-book.

Conclusion

In this section I have discussed consultants' reports, which are one aspect of the provision of information about the regulated waste management process in Germany. They can influence what becomes understood as compliance by the RA and the regulated. Consultants are an important third player in the relationship between the regulated and regulators, particularly in Germany. They partly carry out "regulatory" tasks on behalf of the German RA such as to gather information about the implementation or the lack of it of new legal regulations. In my view, the use of consultants' reports illustrates that to some extent information about the regulated process is not necessarily "objective" or "neutral". Instead consultants' reports are part and parcel of the process of constructing and given emphasis to competing versions of what constitutes compliance.

11.5. The management of perceptions through legal procedures

Introduction

In the following section, I will illustrate how legal procedures can assist in the strategic management of information. The strategic management of information can in turn help to manage legal constraints on activities of the regulated. The German waste management plant had to conform to the "EN" procedure. But there were various ways the regulated could both conform with the "EN" procedure, which in theory regulates the disposal path of waste, and at the same time realize their commercial aims in assigning a waste disposal path for waste streams.

Discrepancies between "paper waste" and "real waste"

The "EN" forms under German waste management regulation were valid for five years. But according to the staff at the German waste management plant, waste loads were changing frequently and within a five year period the chemical analysis provided on the "EN" would probably no longer be an adequate description of the waste. Thus, the waste stream that existed on paper on the "EN" forms would not necessarily exist in practice as it was described on the paper form.

Information on paper procedures and control

Information provided to the RA by the German waste management plant could have an impact on the extent of the RA's control over the plant. The German waste management plant had an argument with the RA about the question whether certain parameters, like heavy metals,

should only be analyzed if they would be expected in the waste or if they should be analyzed as a matter of principle. From the production process, from which the waste would originate, it could be already guessed if it was likely that certain substances would be in the waste load or not.

For example, in a metal plating solution heavy metals would be expected to be in the waste stream. To test only for parameters that one would expect in a waste load could lead at the end to a description of the waste which would only show what the people who analyzed it wanted to see in it. Finally, the RA required the German waste management plant to test every waste stream for certain parameters as a matter of principle and not just in the event that the waste stream was expected to contain these substances.

In some cases the regulated could get the regulators to adopt their view of what constitutes compliance through the strategic provision of information on the "EN" form. One of the employees from the office of the German waste management plant visited a customer at his plant. Through a visual inspection of the waste at the customers' premises the employee decided that the waste stream should not go into the German waste treatment plant but that instead the waste should go to incineration. The employee said that he probably would have no problems getting this approved by the RA because he would enter such values for the analysis on the "EN"

form that the RA would not authorize the waste to go into the treatment plant.

Information about the regulated facility could be a resource for creating particular images of it. Even types of information that might appear at first sight as "hard and fast" information can be managed and negotiated between the regulated and the regulators. While I was at the German RA a material change to a waste incineration plant was licensed according to _ 7 (1) AbfG 1986. One of the main issues of contention between the operator and the RA was the question how much waste this waste management plant was currently taking in. This was important because the RA wanted to see the material change at the plant as a technological up-grading of the plant in order to produce an improvement in its air emission standards. In meetings between the operator and the RA which I observed the RA stated that it did not want the waste management plant to raise the amount of waste it took in. The RA suspected that the operator wanted to increase the amount of waste coming into the plant in order to raise its commercial potential.

The operator said in negotiations with the RA that it was difficult to give an exact figure of the amount of waste that was taken into the plant. A considerable amount of time in these negotiations was spent on debating the basis and accuracy of various figures which were put forward both by the operator and the RA for the amount of waste the plant was taking in.

The RA did its own calculations of the amount of waste on the basis of transfer notes ("Begleitscheine") which the operator had to provide to the RA. These transfer notes have to accompany waste loads which are delivered to the plant. They state the amount of waste delivered. According to the operator, however, these forms would not necessarily provide accurate information about the amount of incoming waste. For example, the amount of waste accepted at the plant would not be exactly the amount of waste disposed of at the plant. Furthermore, according to the operator, errors in filling in the forms, for example choosing the wrong measurements could introduce inaccuracies. It appeared that there was no "hard and fast" basis for the figure of the amount of waste the operator was taking into the plant.

Filling in formal paper forms might be taken by the regulated as an indicator of 'compliance'

Also, from the discussions between the RA and the operator it appeared that there was a discrepancy between the operators' figures for waste handled at the incineration plant and the figures of the RA on the basis of supervision tools such as the transfer notes. One of the waste control officers remarked about this:

'Why does one do this supervision through the transfer notes if the figures are so much in discrepancy?'

The closer look the RA took during this licensing procedure at the transfer notes showed that the information provided on those paper procedures did not

give an accurate picture of how much waste came into the plant in practice. Normally, if the paper documents would not be as thoroughly scrutinized as they were in this case because of the licensing procedure - the RA would not necessarily get to know about possible inaccuracies. Thus, it could not necessarily be determined from the transfer notes if the waste management facility was in compliance or not with the licence limits on the amount of waste coming into the plant. It appears that in the normal case simply the filling in of the transfer notes in itself would count as compliance with the limits imposed on the amount of waste to be taken into a plant. Usually, no detailed scrutiny of the transfer notes was carried out. This was probably also due to a lack of time by staff in the RA. Thus, conforming with legal requirements to provide information could be taken as an indicator. It could be taken as an indicator of compliance with the legal provisions about which information should be provided. Once the requirement to provide information might have been complied with the RA would not necessarily probe if the situation in reality at a plant was in fact adequately described by this information.

In a situation where information about regulated sites is partial, uncertain or incomplete one way to deal with this is to look for indicators of conformity with legal provisions. Compliance with indicators could come to replace substantive compliance. This might be an

inevitable feature of the bureaucratic administration of high volume paper work. Hence, some legal procedures which were operated on paper forms could assist in the management of information such as shielding information about actual practices at a plant.

Limits to managing information on paper procedures

One of the problems that arose for the staff in the office of the German waste management plant was that sometimes the RA wanted more information about the waste stream for which an analysis had been made-up on the "EN". It was considered as a problem by the staff that they then had to construct further information about the waste stream. For example, one day the supervisor of the office staff, who handled the "EN" procedure, discussed an "EN" she was working on. She had submitted this "EN" to the RA. On the section of the "EN" form that asked if the waste could not be recycled the supervisor had written that this was not possible because of the high metal contamination of the waste. Now the RA had sent her this "EN" form back asking that she should specify what metals exactly were in the waste stream. But she could not really specify these metals because no analysis had been carried out.

According to the supervisor of the office, staff who handled the "EN" procedure, a further problem that could arise in connection with the assumed values for chemical parameters was that these values were different from what

the waste looked like in reality. This meant that the values that were entered on the "EN" would differ from the actual waste that was delivered on the yard of the facility. This could increase the risk of the waste having to be rejected or simply increase the problems of handling this waste on the yard. Hence, it was in the interests of the waste management plant to limit the extent to which they would manage information on paper procedures.

Conclusion

In this section, I explored how legal procedures for the provision of information to the RA can assist the regulated to manage various legal constraints on what they can do. Legal procedures for the provision of information can give rise to a discrepancy between "real waste" and "paper waste". This could be partly of help to the regulated to manage practical problems for the handling of waste where the regulated could not conform to legal standards. While on paper 'compliance' with legal provisions could be shown there might not necessarily be 'compliance' on the ground. This points to an interesting aspect of legal regulation. Legal provisions that might be considered at first sight as standards for 'compliance', such as here requirements for the provision of information in legal procedures, might help to shield lack of implementation of legal requirements from the RA. Furthermore, compliance with

legal procedures can come to be taken wrongly as an indicator of compliance.

11.6. "Hard data" and the management of information from testing

Introduction

One of the ways of gaining information about waste load was testing equipment. Results from testing, however, did not always produce unambiguous information. In this section, I will describe some limits of this knowledge base on which evaluations of 'compliance' rest.

Limits to information from analysis procedures

Interpreting test results

As the staff from the laboratory of the German waste management plant explained to me, results from analysis equipment such as ICP and gaschromatography required interpretation. Testing results obtained from these analysis procedures did not speak for themselves. For example, sometimes peak values for certain substances in the waste sample would show in the analysis result. The staff had to decide if this was an aberration in the working of the analysis machine or if this was a genuine reading of a substance contained at high levels in the waste. In order to be better able to judge the accuracy of their analysis machines the laboratory manager of the German waste management plant planned to introduce a quality control procedure for its analysis procedures.

This meant that the laboratory staff would monitor and record the results obtained from the analysis machines and thus gain statistical data for calculating the normal aberrations in the analysis results.

Some German waste control officers distinguished 'genuine non-compliance' from 'technical non-compliance'. The leader of the group of waste control officers who supervised waste incineration plants explained to me that in his view it was a problem that some air emission limits for waste incineration plants were very low. He quoted as an example the limit for the emission of dioxins which was according to the 17. BimschV 0,1 ng/m³. Small inaccuracies in the measurement technique could produce readings for the emissions that were above the emission limit. According to the waste control officer, such technical or unintended 'non-compliance' could be difficult to distinguish from 'genuine' non-compliance.

Technical and legal definitions of 'compliance'

The following story illustrates that technical criteria are relevant for the definition of compliance in practice. In order to understand what is compliance it is important to know how technical aspects of the waste incineration process can influence what becomes a legal definition of compliance. Also, what is considered as relevant information for the purpose of evaluating compliance can be negotiated between the regulated and the RA.

A German waste control officer told me that for a waste incineration plant she was supervising it had to be defined when measurements of emissions of the process should start in order to assess compliance. When the incineration plant would be started up it would take some time until the full incineration temperature had been reached and thus until normal operating conditions were achieved.

During this start-up time, it would be technically difficult for the incinerator to conform to air emission limits. Thus, the waste control officer had to make an assessment from what time on the plant should achieve and maintain compliance with air emission standards. Hence, the legal evaluation of conformity with legal requirements only started after a time limit that was defined by the waste control officer according to technical criteria.

For defining what constituted the start-up time of the incinerator the operator had commissioned a consultant's report. This report suggested that after a certain amount of hours of start-up time the normal operating conditions of the incinerator had been achieved. The report suggested that on top of that five hours should be added as a safety margin. Thus, the application of a legal evaluation of 'compliance' was adapted in practice to what the process could technically achieve. It contained even a safety margin in favour of the operator.

The practical result of the definition of start-up time, normal operations and cool-down time was that only during what was defined as normal operations would the technical measurement devices be switched on which would monitor for conformity with emission limits. For this waste incineration plant the start of measurements for compliance with air emission limits was changed. Previously, the operator had switched on manually the measurement system after the completion of the start-up phase. This was changed to a system where according to the hours listed in the report plus the safety margin the measurement device would be switched on automatically. According to the consultant's report, this would have the advantage that then the operator would be forced to take all measures possible to reduce emissions once the incinerator had been started because the emission recording would be switched on automatically.

Interference of different emissions

A German waste control officer explained to me that information based on air emission measurements might not be conclusive. For example, it had been found in relation to the measurement of HCL at a waste incineration plant that the presence of Bromine and Iodine interfered with the measurement system and caused abnormally high HCL readings. The waste control officer pointed out that such data usually needed further interpretation before concluding that there was compliance or non-compliance. For example, a distinction had to be drawn between, on

the one hand, data above emission limits that were the result of errors produced, possibly, through the interference of other substances with the measurement system. On the other hand, there were data above emission limits which showed 'genuine', i.e. non-accidental non-conformity with legal emission limits.

Managing testing requirements

In some cases the regulated tried to get approved what they were doing through the strategic management of information. One of the German waste control officers told me that there had been an enforcement problem at one of the sites he was supervising. The operator was transporting contaminated soil in barges to his waste management site. According to the site licence, the barges' hatches were supposed to be closed in order to prevent contaminants entering the atmosphere. In fact it had been discovered that the hatches were kept open. The waste control officer then asked for measurements of the air coming off the hatches. He commented on the analytical results the operator had given him:

'The operator can also deceive you. For example they have given us a measurement result (Meßwert) for total carbon (Gesamt C) instead of phenol. This does not measure what is relevant'. The operator can also pacify you. Then they will say that the next time they measured 1.25 ppm. But that this was only a peak value'.

Hence, the regulated tried to present a more favourable image of a site by presenting information in a certain way to the RA.

The following illustrates how the regulated might attempt to strategically manage the provision of information to the RA. A German waste incineration plant had according to the site licence to comply with a minimum temperature of 800 C for° incineration. In the file on the supervision of this plant, it was noted that the technical device for measuring the temperature had been installed outside the combustion chamber. According to the file entry, this was the reason why in a few cases low values for the temperature in the combustion chamber were measured. The file entry said that no correlation could be made between the temperature measured outside the combustion chamber and the temperature inside the combustion chamber. According to the file entry, the operator had offered to commission a consultant's report about the question what the relationship was between the temperatures. The waste control officer did not know to what extent the low temperatures measured outside the combustion chamber were indicative of the temperature in the combustion chamber. Thus he had no means of evaluating whether or not the operator was conforming to the requirement of having a minimum temperature of 800°C.

In connection with the same waste incineration facility another incident was reported in the file on the supervision of the plant. On one occasion there had been a red emission plume and high levels of HCL and dust had been emitted. A waste control officer had then visited the plant. In the file entry it was noted that the

plotter that showed the SO₂ emissions measured in the flue gas had been changed by 10 to 15 minutes by the operator. Thus, it would not have been possible to say exactly what amount of substances were emitted at a particular time. According to the file entry this defect was then corrected.

Information data from testing procedures were not necessarily hard and fast. According to the supervisor of the German waste treatment plant, this could be used as a defence against allegations of non-compliance by the RA. For example, if the RA would allege that the limits on the discharge licence were not adhered to by the plant this could be countered by stating that the chemical testing procedure for the effluent applied by the RA was inappropriate. According to a different testing procedure different results might be obtained.

Discrepancy between information requirements in legal provisions and actually available testing equipment

In the previous section, I have reported that information data from testing procedures are not necessarily "hard and fast". Sometimes, there was even no or no accurate testing equipment to determine compliance or non-compliance with legal provisions.

U.K.

At the U.K. waste treatment plant there was insufficient testing equipment to measure conformity with

the discharge consent before the new laboratory was installed . The discharge consent specified relatively low levels of metals that could be discharged to sewer in the effluent. The Merck dip kit tests, however, from the old laboratory could not measure metals in such low concentrations. For one parameter to which the plant was supposed to conform there was no testing method at all available in the old laboratory. For some of the parameters that the U.K. waste treatment plant had to comply with, the waste treatment plant had no testing equipment. According to the senior chemist, the water company had conducted tests for it in the waste treatment plant effluent and had found that the level for some of the metals was above the level allowed by the discharge consent.

The discharge consent of the U.K. waste treatment plant required that the effluent discharged to sewer would not contain certain metals at a level higher than 5 ppm. Available in the old laboratory, though, were only the Merck-dip kit tests that would detect these metals above concentrations of 10 ppm. The senior chemist commented on this:

'We might as well guess then the level of the metals in the load'.

Also, according to the site manager of the U.K. waste treatment plant, the old laboratory was insufficient to measure conformity with legal requirements under the discharge consent and the site

licence. A new laboratory was set up during the time that I spent at the plant.

Calculating "loading ratios" at a landfill site

Waste management plants had insufficient knowledge about their operations to judge whether or not they were implementing legal provisions. In theory, the intake of wastes into landfill sites which take both special and "normal" wastes is controlled and managed through "loading ratios". They require that over a certain period of time a specified amount of difficult waste in comparison to "normal" waste should be taken into the landfill site. This should 'dilute' more difficult wastes with other wastes. For example, there could be a loading ratio between difficult wastes containing heavy metals and household waste.

According to the site technician at a landfill site operated by the same company which operated the U.K. waste treatment plant, this requirement was not easy to put into practice since it was difficult to calculate the exact weight of problematic substances in the actual waste loads: how many grams of a particular metal were in a grinding sludge for example? The site technician tried to calculate loading ratios by recording incoming waste loads on a card index. According to him, this was not a very accurate method. In the view of the site manager, conforming to loading ratios in future would be possible through a computerized system which would calculate the

weights of different wastes. It would give indications of conformity to loading ratios for example by plotting a graph for the "normal" waste against a graph for difficult wastes.

Germany

In the German waste management plant, there were similar limits to the information available about the waste treatment process in order to judge conformity with legal provisions. For example, the discharge licence at the German waste management plant required the treatment plant to conform to certain limits for some substances in the effluent discharged to the sewer. There was also a limit for tin. According to the laboratory manager, the laboratory did not test the treatment plant's effluent for this parameter. The laboratory manager said:

'According to our experience there is no tin in the waste loads that we accept'.

The laboratory manager explained that it would require an extra effort to test the effluent for the tin parameter. The effluent was routinely tested on the ICP analysis machine. The machine would run a standard programme for the testing of a range of metal parameters in the effluent. Tin could not be measured in this standard programme. A different testing procedure would have to be extra set up for the tin parameter. According to the laboratory manager, this would take up too much time.

Also, when waste streams were initially assessed for their suitability to be taken into the plant the waste

stream would be tested for mercury. But waste loads arriving at the plant to be taken into the treatment plant were not tested for these heavy metals because, according to the laboratory staff experience, had shown that there was usually none of these heavy metals contained in the loads.

Lack of testing equipment for wastes which were supposed not to be taken into the site

Sometimes, it could not be judged if there was or was not conformity with the legal requirements in the site licence on what kind of wastes could be taken into the U.K. and the German waste plant. For example, both licences forbid radioactive wastes to come into the plants. But both at the German and the U.K. plant there was no testing equipment to check if waste loads were radioactive. The German laboratory technicians considered this as a problem. They thought that it might be quite likely that some waste holders could mix into their waste radioactive wastes that were otherwise difficult and expensive to dispose of.

A particularly clear case of insufficient analysis equipment in order to ensure compliance with provisions of the site licence was an oil treatment plant run by the same company that operated the waste treatment plant. According to the site licence, the plant was not allowed to take in oils contaminated with PCB's. The site chemist explained that there was, however, no analysis equipment

to test for PCB's. He said that he could detect PCB's by the colour of the oil. If it was bluish or otherwise discoloured then this would be an indicator for PCBs.

Standards of testing

A similar problem of judging conformity with site licence standards seemed to exist at the U.K. waste treatment plant. In order to determine conformity with the conditions in the discharge consent it would have been necessary for the regulatory body, the water company, to have an adequate testing and control system for the effluent that this waste treatment plant discharged into the sewer. There was a plastic bottle, where the water company would take their 24 hour sample. But this bottle was not secured and openly accessible to everybody. One of the waste control inspectors from the RA remarked upon this and said this was not really an appropriate sampling device since everybody could tamper with it.

A very similar situation seemed to exist at the German waste treatment plant. At the beginning the laboratory manager pointed out to me a box in the treatment plant that contained an automatic effluent sampling machine. According to him, regularly and automatically sample columns would be filled here with samples of the effluent from the treatment process. According to the laboratory manager, the box had metal seals so that the samples could not be tampered with.

When I was actually at the treatment plant, the supervisor told me that the automatic sampling device was broken and that the box no longer was closed through the metal seals. It was not quite clear if the U.K. waste treatment plant did in fact monitor regularly its effluent for conformity with the discharge consent but in the German treatment plant effluent was nevertheless regularly tested. Records of the tests carried out by the chemical laboratory were filed.

Conclusion

In this section I looked at testing provisions for some aspects of waste management operations, such as stack emissions, as a source of information about the regulated process. At first sight this type of information might be considered as "hard and fast" information. It seems, however, that technical procedures for testing might also not provide complete, unambiguous or certain information about the regulated process. This can make it difficult to assess if there is compliance or non-compliance. Testing requirements can also be managed by the regulated or they might simply be discrepancies between testing equipment available at a facility and testing equipment which would be required to assess conformity, for example, with site licence provisions.

11.7. Conclusion

In this chapter I explored strategies of the regulated to manage information and perceptions about

waste management sites. Information about sites does not exist in the abstract but is a key resource in the relationship between the regulated and the regulators. To present information in a certain way might help operators to manage perceptions of their facilities in order to get favourable evaluations from waste control officers. I explored how this happens at the stage of site licensing, in the field, through consultants' reports as well as through legal procedures for the provision of information and through information from testing. I tried to illustrate the complex nature of information. What counts as information is socially constructed in the relationship between the regulated and the regulators. This has implications for understanding how evaluations of compliance are achieved in the field. The regulated participate in this process and thus can have an impact on what becomes understood as compliance.

CHAPTER 12: FORMAL AND EMPIRICAL CONCEPTS OF LAW AND COMPLIANCE

12.1. Introduction

The purpose of this chapter is to discuss different concepts of law and their implications for a concept of compliance. Let us start with the idea that compliance contains assumptions about the link between rules and social practices. Concepts of law become relevant if we raise the question compliance with what ? (Hopkins, 1994) Compliance does not happen in the abstract but it occurs in relation to standards.

On the basis of original field data on behaviour at the waste management plants and interaction between staff at the plants and waste control officers, I will criticize in this chapter "gap analysis" and - usually linked to this - formal notions of law. According to "gap analysis" we can point to discrepancies between the formal requirements of the law and what the regulated did in practice. In contrast to this I will argue that formal notions of law need to be complemented through empirically informed notions of law and that the notion of the "gap" needs to be replaced in some situations through the notion of "integration".

In particular I will look at the following questions in this chapter. What can we understand by a concept of rules? What becomes considered as normative in the field? Does any notion of general rules disappear in

favour of ad - hoc decisions that guide behaviour in particular situations? What type of rules develop during the enforcement of waste management regulation in practice? How useful are the terms "law in the books" and "law in action" in analyzing the field data? What role do structure and agency play in how the law gains meaning? Are rules and social practices different or similiar concepts? Can social practices become normative and can formal rules be an expression of social practices? To what extent is it possible to achieve a "fit" between rules and social practices in the field? What role do various techniques of adapting rules to actual social practices play in achieving such a "fit"? What are the limits to this process? How appropriate is the notion of "capture" to describe the adaptation of rules to social practices?

The chapter is divided into two main sections. In the first section I will discuss basic aspects of "gap analysis", in particular the idea that "gap analysis" privileges formal legal rules. I will describe how the field data point to a broader notion of law which consists of different normative contexts which can overlap. I shall discuss the process of the social construction of these normative contexts and sources of normativity. In the second section I will discuss one of the main aspects of "gap analysis". "Gap analysis" usually perceives a conceptual distinction between rules and social practices. But to what extent can we distinguish rules and social practices in the field?

12.2. Normative contexts in the field

Concepts of law in "gap analysis"

"Gap analysis" privileges the formal law because the gap is constructed by reference to formal legal rules (see Pearce/Tombs, 1990; Hopkins/Parnell, 1984:180; Hucke, 1980:83; Bohnert/Klitzsch, 1980:200; Winter, 1975:28; v. Welck, 1973:147). Yeager (1991:13, chapter 7) for example distinguishes between "publicly stated purposes of the legislation and its implementation". Hopkins (1994) perceives compliance as the relationship between different types of formal legal rules and what the regulated do in practice. He refers to two types of formal legal rules, procedural and outcome regulation, which are identified through reference to formal legal materials such as statutes and codes of practices issued under statutes (Hopkins, 1994:433, 434, 436, 438). Hence, Hopkins does not examine how actors in the field, including the regulated, may construct a notion of law.

"Gap analysis" also privileges the formal law through its assumption that the gap is a dysfunctional aspect of regulatory law (Abel, 1973:184; see for example Mayntz, 1978). "Gap analysis" has been influential and pervasive because it is rooted in contemporary western legal thought and action which rests on purposive rationality (Abel, 1973:184). According to this perspective, an "instrumental" notion of law (Teubner,

1984) should - in principle - be able to achieve a fit between law and social practices. In this scenario "gaps" are deviant.

Abel (1973) does not completely abandon the notion of the "gap". According to Abel two types of "gaps" can be distinguished. First, a "gap" between legislative standards and behaviour within the legal arena and "gaps" between legislative standards and behaviour outside the legal arena. Abel (1973:210) refers to power, ideology and the structure of legal institutions to explain behaviour in relation to law. This seems again to put more focus on the regulators rather than the regulated in the construction of notions of law because the structure of legal institutions rather than the structure of institutions of the regulated are referred to. Furthermore Abel (1973:222) does not completely abandon notions of the formal law because he works with a clear notion of the boundaries of the legal system.

One of the shortcomings of "gap analysis" is that it states that there is a lack of fit between legal requirements and social practices but does not explain what happens when legal requirements meet the "living law" (Ehrlich, 1962). Accounts that operate with the notion of the "gap" also provide little data on what the regulated actually do or how they perceive situations which are described as compliance or non - compliance situations (see for example Braithwaite, 1984, chapter 3). Hence, gap analysis works with an abstract view of legal order rather than treating it as empirically

constructed. How did my field data challenge this account?

What became considered as normative?

My empirical data showed that not just formal legal rules shaped behaviour in the field. A range of "contexts", which have been described in chapters four to eleven, acquired normative force and could operate like rules. These contexts were technology, commercial aims and information. They became normative orders in the sense that they influenced not just single incidents but they shaped behaviour repeatedly and in a regular way.

The notion of a normative context allowed for a degree of indeterminacy. Different actors could ascribe different aims to normative contexts. For example, what appeared to some actors at the plants as a procedure concerned with the normative context of information appeared to other actors at the plants as a procedure concerned with the management controlling the work force. The U.K. waste management plant adopted procedures according to which the operators of the plant had to fill in sheets which provided information about the time it took to press waste, the consistency of the waste sludges etc. One aim of this procedure was to gain more information about technical aspects of the process and hence to enhance process control. The concern of the people working at the plant, however, was that these procedures really were aimed at controlling them by

giving management information about how long it would take to do certain jobs. What does it mean to say that technology, information or commercial aims could acquire normative force? In the following section I want to focus on information as an example for a normative context.

Information as an example of a normative context

What the regulated did was constrained by how much they knew about various aspects of the waste management operations. Decisions by the chemists at the U.K. treatment plant about what waste loads the plant could take in had to consider - according to the discharge consent - if the plant could adhere to the limits on the discharge of certain substances in the effluent to the sewer. But in some instances the testing equipment at the plant was insufficient to provide the necessary information on this. Hence, the main determinant in influencing decisions about loads being taken into the plant were not "legal" criteria as such but simply the availability or otherwise of information.

A further example for the idea that information could be normative were the information management systems at the German waste management plant (see section 7.2. chapter 7 for more detail). The way information was processed determined how waste codes were assigned to waste loads. This in turn influenced how decisions were made about where waste loads should be disposed. The link between waste code and final waste disposal plant,

however, should have been guided - according to the "TA Abfall" - by legal criteria. According to the formal legal rules of the "TA Abfall" regulations, environmental considerations should have played a role when selecting a suitable plant for the final disposal of a waste load rather than just cost considerations (Kloepfer, 1989:712). But in fact this link was guided by how information was processed. One of the reasons why these information management systems existed was that they helped to realize commercial aims of the plant. This illustrates that formal law, technology, commercial aims and information, which could all be normative contexts, could overlap.

Overlap between different normative contexts

The example of testing incoming waste loads

The field data showed that often behaviour was influenced by all four normative contexts. One example of this was the testing of waste loads which came into the waste treatment plants, one of the key situations for law - related behaviour. First, formal law had an impact on the situation: the requirement that incoming waste loads should be tested was not completely ignored. Commercial and technical requirements alone would not have justified the frequency of testing of incoming waste loads that did occur at the plants. Hence, there existed behaviour

directed at fulfilling site licence requirements for testing incoming loads.

Secondly, technology also played a role. The available testing technology, such as chemical analysis facilities in the laboratory, influenced the extent to which load acceptance criteria spelled out in the site licence could be taken into account. For example, the site licence of the U.K. plant required that only wastes which could be treated at the plant should be taken into the plant. According to the chemists at the U.K. plant, more sophisticated and precise chemical analysis machines in the laboratory would have produced different information about waste streams than the testing equipment available in the old laboratory. It could have found problematic substances in the waste stream that the plant could not treat. Thus, the formal law made prescriptions about technology but technology also influenced what became understood as the law in practice.

Thirdly, how much information existed about the waste also had an impact on the ability of the staff to make decisions which fulfilled legal requirements on load acceptance. For example, according to the site licence of the U.K. waste treatment plant wastes having a flashpoint less than 32°C were not allowed to be taken into the plant. Hence, in order to fulfill this site licence requirement there had to be information about this load content. Fourthly, commercial requirements had an impact on how detailed testing was carried out on waste loads. In the new laboratory of the U.K. waste treatment plant

new analysis machines were available which could detect metals in waste loads at lower concentrations. This would have helped to gain more precise analysis data for making decisions about load acceptance. This equipment, however, was not utilized. Instead the Merck dip kit tests, which were quicker and which had also been used in the old lab were used. This happened in order to ensure a quick turn around time for tankers which made the plant commercially more attractive for waste hauliers. Hence, commercial contexts influenced how available technology was put into operation.

Normative contexts did not exist in isolation from each other but they overlapped and hence influenced each other. Commercial contexts influenced how technology was put into operation, technology influenced how much information there was. Information influenced how technology was made to work. In the following section I will look at further examples of the overlap of normative contexts.

The relationship between law and technology

The formal law influenced technology but technology also influenced what became understood as the law in practice. The site licence for the U.K. and German waste management required a certain level of technology for the plant. For example, condition no. 19 of the U.K. site licence required that:

"All storage and process tanks shall be desludged by vacuum tankers or other appropriate vacuum assisted equipment in order to minimise fumes and odours".

Condition no. 23 stated:

"The lime storage silo shall be fitted with a dust filter and all movements of bulk quantities of powdering materials shall be carried out in sealed systems in order to minimise dust".

But technology, in turn, also influenced what was understood as a legal requirement in practice. For example, in the German waste management plant the chemical laboratory was preparing for, but so far had not yet adopted, a systematic quality control approach. Therefore the lab staff had to evaluate - on the basis of their professional knowledge - if certain results from the measurement machines were aberrations produced by the testing process or were genuine indicators of high levels of certain substances in the waste loads. Decisions about load acceptance which were restricted by legal criteria on acceptance parameters had to be based on this technical analysis information. Thus, what became implemented in day - to - day decision - making routines as a legal requirement was shaped by technology.

One way of analyzing this situation might be to claim that technology influenced the way "facts" were socially constructed. To this legal criteria from the site licence about load acceptance were then later applied. Genn (1987:81) in her work on the settlement process in personal injury cases adopts this approach. She discusses the importance of information in

establishing the facts to which legal criteria of negligence become applied in negotiations about settlements in personal injury cases. But, in my view this approach can be challenged as not necessarily being the most appropriate analysis. There may be a much more direct link between technology and the meaning of legal requirements. The state of the analysis technology in the laboratory of the U.K. and German waste treatment plant determined how waste streams and hence under what description of a waste load, provided in Annex B to the site licence, they could be classified. Different descriptions of waste as used in Annex B could not be considered as "legal" criteria. The meaning of waste descriptions was technical and the legal rule - such as the restrictions in the site licence - on what could be taken into the plant - had to operate with these technical concepts. To separate a legal rule from its factual basis seems to be artificial in my context and reflects a "legal paradigm" view. A key aspect of exploring how law was constituted in practice was to move away from the idea that "the law" existed as a category independent of the categories of social life it drew on.

Relationships between various other normative contexts

There were other situations where overlap between different normative contexts occurred. For example, information influenced the way how technology was used. At the U.K. waste treatment plant, knowledge about the

treatment chemistry and hence control over the treatment process influenced the evaluation of whether conformity with the discharge limits for effluent to sewer could be achieved. Also, the requirements of the formal law and of commercial aims could overlap. Service relationships between different actors in the waste management chain had an impact on the operation of legal procedures that guided the relationship between the regulated and the regulatory authority. According to § 8 (1) and (2) and § 9 (1) AbfRestÜberwV, German waste producers should fill in the legal forms of the "EN", in particular the official declaration of the waste producer ("Verantwortliche Erklärung des Abfallerzeugers"). In practice, however, these forms were usually filled in by staff at the waste management plant. Changes on these forms, such as an increase in the amount of waste to be disposed of, had to be authorized by the regulatory authority. It was part of the commercial service that the German waste management plant offered for the waste producers to get such changes approved by the regulatory authority if the waste producers asked for it. This notion of service provision mediated legal criteria for the limits on the "EN" for the amount of waste to be disposed. According to the formal legal rules, policy aims such as the reduction of waste to be finally disposed should have been relevant (§ 3 (2) AbfG i.V. m. § 8 (1) AbfRestÜberwV).

How exactly different normative orders overlapped in practice was a subjective matter created through the

perceptions of various actors who had different views on this. For a charge hand at the U.K. waste treatment plant, the technology of the plant would have been more of a normative reference point than commercial or legal requirements. For chemists, legal and commercial requirements had more immediacy.

Negotiation was an important resource for managing overlap between different normative orders. Through negotiation legal requirements could be handled more flexibly with the result that fulfilling legal aims could also help to fulfill the requirements of other normative contexts. Both in the U.K. and the German settings there was frequent negotiation between the regulatory authority and operators of plants (for more detail see chapter 8 and 9). For example, negotiation of standards at site licensing stage led to formal legal requirements in the site licence that also enabled the regulated to fulfill requirements from commercial contexts. Negotiation in the field could also help to manage overlap between different normative orders. But what does the notion of overlap between different normative contexts tell us about a concept of compliance?

Overlap of normative contexts and concepts of compliance

The notion of overlap between the four normative contexts has various implications for a concept of a rule. First, the formal law was just one of those normative contexts and did not have a privileged status

of being more important than other normative contexts. Secondly, normative contexts were most likely to shape behaviour where they overlapped. This was different from notions of rules that draw on the formal law and enforcement officers' perceptions of the law for defining rules. Such accounts do not take sufficiently into account how the regulated themselves define normative contexts, below the threshold of attention of the regulatory authority.

My field data showed that normative contexts were most likely to shape behaviour where they overlapped, i.e. where various different normative contexts reinforced each other. This is in contrast to what is sometimes suggested in the literature, that it is clarity of legal rules that is likely to promote behaviour which fulfills legal requirements. This is sometimes suggested in the literature (see for example Dimento, 1986:104). For example, in his discussion of the "capture" of regulatory commissions in the U.S. by business Bernstein (1955) argues that "enforceable regulations" are an important aspect of successful regulation by Commissions. He states:

"...in order to be enforceable, regulations must be understood by persons and firms subject to them. They must delineate clearly what the individual or firm must do in order to comply. Intelligibility and coherence of regulations are major factors in the enforcement process" (Bernstein, 1955:226).

This might accurately reflect perceptions of the regulators. But on the lowest level of actual

implementation of legal provisions by the regulated the notion of the "clear rule" might be limited in explaining behaviour. On the basis of my field data it seemed - ironically - that a rule was more likely to be followed if the "background" from which it drew its normativity was "fuzzy", i.e. consisted of an overlap of various different reinforcing normative contexts.

A further implication of the idea that there are various normative contexts is that a distinction between compliance and non - compliance is too simplistic. The distinction implies that there is one normative context in relation to which compliance and non - compliance could be determined. But given the situation that there was a range of normative contexts what might be non - compliance with one context might be compliance with another. There were limits, however, to the notion of reinforcing overlap between different normative contexts.

Limits to overlap

In some situations different normative contexts required different behaviour. Hence, there was not overlap but incompatibility between the demands of different normative contexts. For example, there was incompatibility between the testing methods actually available and the testing methods required in order to make decisions on the question whether the formal legal requirements for taking in waste loads or passing on waste loads to final disposers had been fulfilled. The

testing methods used were not precise enough to give information needed to determine compliance with the requirements of the formal law. This was not just a result of the more simple testing methods such as the Merck dip kit tests in the lab of the U.K. waste treatment plant. Instead, even the more sophisticated analysis machines in the lab of the German waste management plant or the new lab at the U.K. waste treatment plant could not provide the "either/or" certainty that the legal rules required. It was difficult to say if the load either did or did not conform to acceptance parameters because analysis results depended on how the sample was taken and if a representative sample could be taken of that type of waste load. Hence, in some situations there was a fundamental incompatibility between the image of social reality that formal legal rules portrayed and the image of social reality with which other normative contexts worked. This notion of competing versions of social reality in different normative contexts is different from a notion of a "gap" between formal legal requirements and social practices. The notion of the "gap" privileges images of social reality contained in the law. By describing behaviour which did not conform to the formal law as "social practices" insufficient emphasis is given to the normativity of other social orders besides the formal law. Also, the rule - like aspects of normative contexts are neglected. Since the analysis procedure could not give clear answers to the questions that the formal law

raised (i.e. does it conform to acceptance parameters or not) a notion of compliance was adjusted. As a result of this, technical compliance could be distinguished from a notion of compliance contained in the formal law. Technical compliance meant that a particular sample showed conformity with acceptance parameters. According to the U.K. site licence the law's notion of compliance involved the idea that the waste load conformed to acceptance parameters (look up German material on incoming loads). In practice only the technical notion of compliance had any relevance or meaning. Hence, legal definitions of compliance were transformed through technical criteria. Technical criteria, in turn, could help to realize the operator's own interests because they were within the control of the regulated. They could be manipulated so that evaluations of compliance would be in favour of the regulated. Hence, while there were limits to overlap in this situation between technology and the formal law there was overlap between technical and commercial contexts. So far I have just used the term normative context without really explaining how different contexts became considered as normative. Let us therefore explore in the next section the question how different normative contexts were socially constructed.

Normative contexts as socially constructed

Some studies on discretion do not explain how - in detail - contexts become relevant to legal decision -

making or what the contents of these contexts are, apart from a - priori generalized notions of "various social, political and legal factors" (see for example Hermann, 1976:38). In contrast to this a characteristic of the four normative contexts, law, technology, commercial requirements and information - as encountered in the field - was that they were not objective factors but they were socially constructed (Emerson/Paley; 1992:232). On the basis of my field data I traced how various factors contributed to what became considered as commercial aims. For example, it was in the commercial interests of the German waste management plant to pass on problematic wastes to final disposal sites which charged lower disposal prices rather than disposing of the waste through incineration. This commercial incentive, however, was qualified by the need to preserve good business relationships with landfill sites. Assigning too many problematic waste loads above acceptance parameters of the final disposer could cause too many load rejections. Hence, the commercial incentives that motivated behaviour in practice could not be determined in the abstract but were constructed in the field through reference to a range of different factors and sometimes conflicting commercial aims (for a discussion of the social construction of information see section 13.1. of chapter 13).

Technology was also socially constructed. Its meaning was actively created by actors in the field. Technology was not an objective condition that solely

determined behaviour; the actors' responses to and perceptions of it played a part, too. For example, insufficiently precise testing equipment such as the Merck dip kit tests at the U.K. waste treatment plant was one aspect of a culture of "bucket chemistry". Another aspect of "bucket chemistry" was a general attitude of the staff that developed in response to the low level of technology. In this low - level technology working environment precision in analytical procedures was not considered as paramount. Hence, normative contexts were not static surrounding circumstances but these contexts were created and recreated by actors in the field. Thus, behaviour directed at fulfilling legal requirements occurred in a subjective world. The question arises through what social processes did these various contexts become normative?

Sources of normativity: structure and agency

In the following section I will explore what are sources of normativity. How does a context become normative? What role do structure and agency play in this process?

Structure

According to "gap" - analysis the "gap" is deviant. Also, it is up to legal actors to "comply" or "not comply" with the law. If structural factors are

recognized they usually refer to commercial contexts and the structure of the capitalist economy (see for example Clinard/Yeager, 1980:273). One of the few exceptions to this is Scholz (1984a) who refers also to technology and the flow of information in the regulated organization as factors influencing the implementation of regulation. Furthermore the formal law - in relation to which the "gap" becomes assessed - is considered as static rather than dynamic.

There are three aspects of this perception that were challenged by my field data. First, law could gain meaning by being embedded in structural frameworks such as technology, and hence without being actively invoked by actors. The information management systems in the laboratory of the German waste management plant provided a structural framework which shaped "information" that was relied on in individual decisions on the assignment of waste to particular plants (for more detail see section 7.2. in chapter 7).

Secondly, technology and information, not just commercial contexts, were important in this process. For example, according to the chemists at the U.K. waste treatment plant, there was a degree of lack of control over the reactions in the treatment process. Because of the way the plant was constructed waste loads which could not be treated down to discharge consent limits could not be re - treated. Hence, simply the way the waste treatment plant was designed, leading to limited process control, structurally determined if and how the limits on

the discharge of various substances in the discharge consent would gain meaning.

The third way in which my field data challenge assumptions of "gap" analysis is through the idea that normativity in the field was not just a static characteristic but could be dynamic. This is illustrated by looking at the role of agency in the construction of normative contexts.

Agency

There were situations in the field in which normative contexts became mediated through actors. Definitions of what was normative were derived from interaction between people. On the one hand there were the service relationships in the waste management chain. Interaction between waste producers, waste treatment plants and final waste disposers could determine what became defined as normative. For example, independent hauliers were concerned that they would lose business if they gave details of waste producers to the waste treatment plant. This reduced the amount of information that was available to the chemists at the U.K. plant for assessing waste loads. Information about incoming waste loads was the product of negotiations between the plant and hauliers as part of a business relationship.

On the other hand meaning of the law could be constructed through interaction between enforcement officers and staff at the waste management plants (for

more detail see chapters 8 and 9). Thus normativity was not necessarily a static characteristic but could be dynamic. What was normative was not "necessarily" pre-determined in structures but could also be constructed in personal interaction in the field. Indeed, in turn, even formal legal rules were not automatically normative. Hence, normativity was not necessarily based on the authority of the formal legal system but could be negotiated in the field. Rules did not necessarily become considered as authoritative because they were developed in accordance with the appropriate procedures of the formal legal system. The structural or negotiated normativity of other contexts could override normativity of the formal law. This challenges a central aspect of "gap" analysis according to which we can talk of "gaps" because we can construe in the abstract what the meaning of the law is and then compare it with what the regulated actually do in practice.

So far I have discussed examples where normativity of a context was achieved either through structure or agency. In some situations in the field, however, normativity of a context was established through both a combination of structure and agency.

Structure and agency as not mutually exclusive

Structure and agency were not mutually exclusive in establishing the normativity of a context. Since information is discussed in section 13.1. of chapter 13 I

will focus here on illustrating how technology, commercial aspects and the formal law could be constructed, both through structure and agency. For example, aspects of technology such as the way the treatment process was set up could work as a structure. But the culture of "bucket chemistry" at the plants also had an impact on behaviour at the level of incentives and motivation.

Commercial contexts could also work both as a structure and as an incentive. Structural aspects of commercial incentives included the roles created for staff at the waste management plants through pre - given job descriptions such as the sales staff. But in some situations it could be up to negotiation between individuals such as a particular sales person and a particular chemist as to what extent commercial aims played a role when deciding, for example, about the rejection of a waste load.

Similarly, formal legal rules could provide a structural framework for behaviour as when a new work group was set up at the German waste management plant in order to deal with the new "EN" paper procedure. In some situations, however, formal legal rules had less of an impact as a structure but could act as a specific incentive for behaviour. For example, there was an incentive to comply with some of the testing procedures for waste in order to be able to calculate accurate disposal prizes for customers of the German waste management plant (for more detail on this see section

4.2.1. in chapter 4). Hence, the four contexts of commercial aims, information, technology and law could operate both as structures and as incentives. After having discussed how a notion of the formal law and compliance with it became transformed in the field through a range of normative contexts I will now discuss another important aspect of "gap" analysis. This concerns the idea that we can distinguish a notion of the formal law from social practices.

12.3. Law and social practices as conceptually different?

In "gap" analysis the formal law and social practices are often perceived as conceptually different. The notion of the "gap" is premised upon the idea that we can identify standards on the one hand and compare them to social practices of the regulated on the other hand. Various accounts in the literature have adopted this perspective (Pearce/Tombs; 1990; Hopkins/Parnell; 1984:180; Huckle, 1980:83; Bohnert/Klitzsch, 1980:200; Winter; 1975:28; v. Welck; 1973:147). This idea is also expressed in the title of Stone's book on corporate social responsibility "Where the Law ends" (1975).

My field data raise questions about this perception. It emerged from the field data that rules developed in the field which were the result of a process of integration of rules and social practices. Normative orders that shaped behaviour could not be thought of as "the law" on the one hand and "social practices" on the

other hand. Instead a whole range of different rules could be placed on a continuum where social practices gained normative force and formal rules were influenced by social practices. Thus, in my view the law does not end where social practices such as business practices start but any meaning of empirical law has to start with social practices. Let us first look at different types of rules encountered in the field.

Different types of rules encountered in the field

In the field different types of rules such as customary rules, adjustment rules, hybrid rules and formal legal rules could be encountered which resulted from the overlap of various different normative contexts. What do these rules tell us about the relationship between rules and social practices? Can the adjustment of rules to social practices be considered as a form of "capture"?

Customary rules

From the field data it emerged that different types of rules operated in the context of waste management regulation. Sources for customary rules were work routines, work group norms (see also Busck, 1976:129), experience and formal legal rules. For example, it was a customary norm at both the U.K. waste treatment plant and the German plant that wastes known by experience would

sometimes not be tested as required by formal legal rules of the site licence.

Furthermore ways of doing work in a work group could crystallize into a customary norm which would have an impact on how formal legal rules were implemented. These customary work group norms were influenced by a range of factors such as where the work group was located at the plant and if people working together in a work group shared a common profession or gender (for more detail see chapter 6). Hence, through the impact of work group norms a range of small - scale factors had an impact on how the formal law gained meaning.

Also, formal legal rules could be the source of customary norms. They could have an initial impact on social practices but then be forgotten about. It was thus the social practice itself that constituted the normative standard and became self-perpetuating. At both the German and the U.K. waste management plants operators often did not know in detail site licence requirements which were supposed to shape behaviour. Nevertheless, the way operations were handled conformed partly to site licence requirements. Hence, operators - in their view - conformed to the normative order that they "had always done things that way" rather than to the site licence requirements.

In contrast to this in the literature work group norms have been portrayed as mainly in conflict with formal rules. For example, values and work group norms have been perceived as in conflict with formal rules in

Freidson's work on social control among physicians (referred to in Manning, 1980:94).

A further example of customary rules were some of the standards used by waste control officers in the field to evaluate sites. When both German and U.K. waste control officers assessed sites they did not check in a very detailed way if every condition of the site licence was fulfilled. Instead they appraised the site for compliance with a more general standard such as "good housekeeping" which was based on experience of having visited sites. Hence, in some situations customary rules displaced the application of formal legal rules. What other types of rules existed apart from customary rules?

Adjustment rules

Some of the work routines that were carried out both at the U.K. and the German waste management plants involved regular and patterned behaviour. This behaviour did not necessarily fulfill site licence requirements but it could not be adequately described as breaking site licence requirements either. Instead it could be best described as being steered by adjustment rules. At the German waste management plant waste loads arrived at the yard in order to be passed on to final disposers. Usually an "EN" form accompanied these waste loads which specified in which particular facility the waste should be disposed of. Quite often the waste load arriving at the yard did not conform to the description of the waste

given on the "EN". Hence, the waste in practice could not be disposed of in the waste disposal plant which was indicated on the "EN"; the waste had to be redirected into a different waste disposal facility. Thus, decisions made in the office about what waste should go into what facility had to be changed at the yard. New links between type of waste and type of final disposal plant had to be created. These new patterns of making decisions constituted a new set of rules that operated at the yard. These types of rules could be called adjustment rules because they helped to adjust previously achieved decisions in the office to what the waste looked like in reality when it was delivered at the yard. Hence, there was not outright conflict between the norms operating at the yard and decisions made in the office. But norms operating at the yard were "back - up" rules which helped to bridge gaps between a perception of the waste arrived at in the office on the basis of an analysis and what the waste was actually like when it arrived at the yard. Manning (1980:79) also found in his study of the law enforcement work of narcotics officers that adjustment agreements were struck between officers and the regulated. He states:

"...the private modes of negotiation, accommodation and adjustment, in large part a product of various compromises with stipulated public rules establishes a dual standard: a publicly announced, or at least administratively stipulated, set of rules and procedures and a privately adhered to sub rosa set of working arrangements or sanctioned practices" (Manning, 1980:80).

There were different types of adjustment rules. First, there were adjustment rules which were formally negotiated between the regulatory authority and the regulated. These were different from hybrid rules because they would not be included in formal legal documents but constituted a working understanding between the regulatory authority and the regulated in the field. Secondly, there were adjustment rules which developed just out of the operations at the plants and which remained below the attention threshold of the regulatory authority. An example for the latter type were the adjustment rules in relation to the "EN" procedure at the yard of the German waste management plant.

Two main factors influenced the formation of adjustment rules. First, they were linked to a set of primary norms which consisted of decisions made in the office about where particular waste loads would go. Decisions made in the office would usually be adhered to except when the actual waste load delivered was not suitable for the final disposal plant. Hence, adjustment rules could "fine - tune" decisions made in the office. Decisions made in the office were based on formal legal rules. Adjustment rules mediated these formal legal rules.

Secondly, work groups shaped adjustment rules. The group of staff in the office, which had been specifically set up to deal with assigning final waste disposal plants for waste loads under the "EN" procedure, worked to one set of rules. The work group of the people on the yard

worked most of the time to the set of rules specified in the office, but sometimes worked to a different set of rules, these adjustment rules. The contents of these adjustment rules was determined by the concerns of the particular work group which was operating them. The people working on the yard were concerned with making sure that waste loads were accepted by final waste disposers and that hired vehicles were filled up completely with waste loads before being dispatched to final waste disposal sites. The question arises what role did formal legal rules play in the construction of normative frameworks in the field?

Formal legal rules

The source of formal legal rules were formal legal sources, such as the site licence and the discharge consent, that defined rules abstractly, i.e. not in relation to social practices. In this section I will look at the question to what extent the form of formal legal rules can help to explain behaviour at the plants. In some situations the form of formal legal rules contributed to what became considered as normative. In other situations, however, the form of formal legal rules could be more important for understanding how standards were managed rather than what the actual standard was. It emerged from the field data that formal legal rules could contribute to shaping practices that occurred at the waste management plants such as the dilution of waste

loads at the U.K. waste treatment plant. On the discharge consent the limit for the discharge of substances into the sewer was expressed in percentages, i.e. x mg of a particular substance per litre. It was not difficult to manage formal compliance with this standard. Waste loads which had not been satisfactorily treated could, through dilution with water, be brought down to this standard. Had the formal standard been expressed as an absolute amount of substances discharged, for example 50 mg of Cadmium per day, then dilution would not have been an option for the regulated to manage the fulfillment of legal requirements. Hence, the form of the legal standard could have an impact on social practices at the plant although it was not the sole reason why the regulated diluted waste loads.

The form of the formal legal rule, however, could not explain what the actual standard was. Even if there would have been a formal rule in the discharge consent that would have set as the limit 50 mg of Cadmium per day, the meaning of the actual standard for the regulated might have been that they could discharge routinely 70 mg of Cadmium per day if the water company did not check what they discharged or if they took the view that 20 mg of Cadmium above the licence limit was part of the tolerance level they were applying in practice (see Hawkins, 1984:27). Hence, when trying to explain behaviour in relation to law it is not sufficient to refer back to the formal legal standard as the main reference point. Waste loads were sometimes redeclared

both at the U.K. and the German waste management plants under a different waste code. But, the flexibility of the formal legal rule, here the broad waste code, was not sufficient to explain why waste loads were being redeclared. Work group norms, operational and commercial considerations also played a role.

Accordingly, accounts in the literature that make statements about actual standards by reference to the formal legal rules are problematic (see for example Staatsen, 1976:133; Schefters/Ringeling/Wolters, 1976:192). Schefters, Ringeling and Wolters discuss how applications for entry of the Netherlands were handled by the relevant Minister. The applications were made by people of mixed Indonesian and Dutch descent who had been given the option to either choose Dutch or Indonesian nationality when Indonesia became independent from the Netherlands in 1949. Some of the people who had then chosen Indonesian nationality later regretted this choice and sought entry to the Netherlands. Schefters, Ringeling and Wolters (1976:190) see discretion exercised in deciding these applications as mainly arising from broad criteria in the statutory framework such as "adaptability", "need" and "other factors".

In contrast to this it is necessary to refer to various different normative contexts when trying to understand behaviour in relation to law. Since other normative contexts influenced behaviour in relation to law the form of legislation could tell us something about the mechanisms used for managing standards but not

necessarily about the actual standard itself. The fact that formal legal rules provided for discretion did not mean automatically that commercial aims overrode formal legal rules. Hence, when trying to understand what role formal legal rules played it was important to look at the interaction between forms of regulation and surrounding norm systems (for a more detailed discussion of the implications of this for debates on discretion see section 13.3. in chapter 13). So far I have argued that formal legal rules and in particular their form had only limited relevance for explaining behaviour in relation to law. In the literature, however, it has been argued that - legal rules become relevant by providing a framework in relation to which legal actors bargain (see for example Genn, 1987; Winter, 1985).

Bargaining in the shadow of the law

Mnookin and Kornhauser (1979) provide a model of how legal frameworks influence bargaining between the parties in the divorce process outside the courtroom. They state:

"...that the preferences of the parties, the entitlements created by law, transaction costs, attitudes towards risk, and strategic behaviour will substantially affect the negotiated outcomes" (Mnookin/Kornhauser, 1979:997).

In some of the bargaining situations encountered in my field data this notion of "bargaining in the shadow of the law" seemed appropriate to apply. During negotiations with the operator for the upgrading of a waste management

plant the German regulatory authority referred to the fact that during the public participation phase pressure groups and citizens would demand from the regulatory authority stricter standards for plants. This was used by the regulatory authority as an argument that it would be in the best interests of the regulated to adopt higher standards at an earlier stage before they came under pressure in the public participation phase.

Though Mnookin and Kornhauser work with the idea that legal frameworks become relevant only in a mediated form my field data show that it may be necessary to go further than this. In my view, the notion of a legal framework needs to be transformed. My data suggested a closer connection between legal frameworks and bargaining than recognized in Mnookin and Kornhauser's model.

First, the regulated and the regulators did not just bargain in the shadow of the law but they bargained what the meaning of the law was. In both the U.K. and German waste regulation authorities the contents of site licences were negotiated (for more detail see section 8.2. of chapter 8). For Mnookin and Kornhauser, "bargaining in the shadow of the law" is not so much concerned with establishing what the law is. They were more concerned with the question how the law becomes utilized or selectively applied. The notion of the "bargaining chip" seems more powerful for conceptualizing the role of formal legal provisions where negotiations are an alternative to formal legal procedures such as court actions. In Mnookin and Kornhauser's study this

concerns bargaining between the parties to a divorce in place of the full determination of the terms of a divorce settlement by a court. In Genn's study (1987) it concerns bargaining processes in out of court settlements in personal injury actions. In some enforcement studies it refers to the use of negotiation instead of the invocation of formal criminal prosecutions (see for example Grabosky/Braithwaite, 1986:190; Hawkins, 1984). The analysis of the formal law as the "bargaining chip" has arisen from an examination of bargaining in different contexts than some of the bargaining in my field study. Here bargaining occurred as part of - not as an alternative to - the formal legal process of site licensing. Hence, the notion of the "bargaining chip" needs to be complemented by a perception that the content of the law can become negotiated.

Secondly, my field data show that bargaining occurred not just in the shadow of the formal law but also in the shadow of social practices. For example, in the German regulatory authority a plan for scrap yards was drawn - up. When setting standards for the waste management operations the waste control officer stated that the aim of the regulatory authority was not to 'gold - plate' the scrap yards. Similarly in relation to the licensing process of a waste management facility a German waste control officer said:

'We want to follow reality (emphasis added) with this licence. Negotiation between the RA and the operator should help to approach step by step what is realizable'.

Hence, standards were not negotiated in relation to abstract legal norms. What the regulated actually did in practice when running their operations was also taken into account. After having discussed how norms are achieved through bargaining processes in the field let us look at incentives for bargaining. Mnookin and Kornhauser state that private ordering in the case of divorce is promoted by a range of incentives (Mnookin/Kornhauser, 1979:958). Among those is the fact that the parents will know more about the child than the judge (Mnookin/Kornhauser, 1979:958). Some of these incentives also existed in the case of the implementation of waste management regulation. Current and sufficient information about the waste management process was often only accessible to some staff at the waste management plants rather than to waste control officers. Usually only the people operating machinery or the chemists would understand the technical process in detail. Hence, an incentive for private ordering occurred where actors other than official legal actors such as waste control officers were better suited as decision - makers and where the input of non - official legal actors was crucial.

In the case of divorce law private ordering means that the two private parties to the proceedings negotiate their own settlement of the case and the judge only "rubber - stamps" the privately agreed outcome (Mnookin/Kornhauser, 1979:951). Private ordering in the context of the implementation of waste management

regulation, however, meant that private actors - the regulated - participated with the regulators in the legal ordering of a situation. Hence, private and official legal actors both participated in the bargaining of norms in the case of waste management regulation. Through private ordering a notion of the formal law became mediated. In contrast to this official legal actors such as the judge only intervene during the final stages of giving validity to privately negotiated norms in Mnookin and Kornhauser's model of divorce law bargaining.

Mnookin and Kornhauser also show how negotiation undoes some of the ways in which the formal law organizes and compartmentalizes social reality. Money and custody issues could be linked in private divorce bargaining. In most North - American states the formal law does not allow these two issues to become linked. For example, in a legal action brought to recover overdue support payments, a father cannot defend on the ground that his ex - wife did not permit visitation (Mnookin/Kornhauser, 1979:964). But through private negotiation "piecemeal bargains" can be achieved "that spread support payments over time" and link visitation to money issues (Mnookin/Kornhauser, 1979:965).

Negotiation also helped in the U.K. waste regulation authority to link the enforcement of waste management rules and the licensing of plants. Enforcement and licensing were dealt with in separate branches of the regulatory authority and they were not linked in the statutory framework. But prosecution and licensing could

become linked. After prosecutions, site licence standards would be sometimes adapted in the U.K. The fact that negotiation could create links where there were no links according to the formal legal provisions shows how meaning of the law could be created from the bottom - up. Apart from formal legal rules what other types of rules existed in the field?

Hybrid rules

I defined formal legal rules as rules whose source were formal legal documents such as the site licence for a waste management plant or the discharge consent for the discharge of effluent into the sewer. Some of the rules in these formal legal documents set an abstract standard for behaviour such as basic minimum technological requirements. For example, in the site licence for the U.K. and German waste treatment plant there were requirements to instal measurement devices for the level of liquids in the treatment tanks.

There were other rules in the site licence, however, which could be described as a hybrid variety between formal rules and customary rules. The source of these hybrid rules was formal legal documents such as the site licence. But these hybrid rules were related to customary rules because they drew on actual social practices when they were set up. For example, when the rules for testing procedures in the site licence were laid down, the regulatory authority would not just

unilaterally determine them, but would write them via reference to the working plan submitted by the regulated. In the working plan the regulated would describe their operations as they wanted to carry them out in practice. The standard which would be finally imposed on load testing procedures would draw on what the regulated themselves had proposed. Hence, this formal legal standard had as one of its sources social practices of the regulated. In the following section I will look more closely at the process of integration of rules and social practices.

Integration of rules and social practices

Introduction

In this section I will look at general aspects of integration. What different forms of integration could be distinguished? Through what mechanisms was integration achieved? Could commercial requirements be integrated into legal requirements? Was the integration of social practices into rules a form of "capture"?

General aspects of integration

An integration of rules and social practices occurred at different levels. Rules could be adapted to social practices at the formal site licensing stage. But rules were also adapted informally in day - to - day

negotiation. The practice of diluting waste loads at the U.K. and the German waste management plants was a good example of this. The dilution of waste loads enabled the U.K. plant to give the appearance of fulfilling legal requirements while at the same time loads which could not be treated at the plant or which did not conform to requirements for incoming loads could still be taken in. Where social practices were integrated into rules in this way, a traditional notion of rules would be transformed. A rule was not exclusively prescriptive but drew on actual social practices, that is the rule was not so much concerned with general applicability and universal validity but drew on the specific circumstances of what was happening at a particular plant. The integration of rules and social practices illustrated another aspect of a transformed notion of a rule. Rules were not just static but could be dynamic. Formal legal rules could be adapted to social practices and social practices could be adapted to formal legal rules.

Different forms of integration: "Strong" and "weak" integration

There were "weak" and "strong" forms of integration. In cases of "strong" integration regulators changed the content of a legal provision. For example, in relation to one of the site licences being written for a U.K. waste transfer plant the licensing unit had initially suggested a short time that waste should be

allowed to be stored at the yard. After consultation with waste control officers who supervised the site the time limit for storage of waste was extended. In situations of "strong" integration the setting of standards was done strategically. Standards were set with the aim of avoiding a situation where the regulated could not fulfill legal requirements. Hence, standards were not set in the abstract but were set in relation to social practices. Another example of "strong" integration was the fact that sometimes waste control officers in the field anticipated the need for the adaptation of a rule; they would approach the regulated with the suggestion that the rule should be adapted before the regulated would even request it. "Strong" integration covered the situation where there was formal approval by the regulatory authority of the integration of social practices in rules such as in the case of working plans.

"Weak" integration described those situations where the regulatory authority simply left more scope to the regulated to choose the means through which they would achieve the outcome that the regulatory authority had stipulated. At one of the German plants which treated contaminated soil the regulatory authority had initially required that two foils should be installed to prevent polluting substances from the plant seeping into the ground. In the end, the regulatory authority agreed to a compromise whereby the regulated were allowed to install only one foil. But in addition they had to ensure that no substances would leak from the plant. In case any

leakages occurred the liquid had to be collected in containers. "Weak" integration described also the situation where the integration of rules and social practices occurred on a less formal level than in the case of "strong" integration. Examples for this could be informal agreements negotiated in the field (for more detail see section 8.3. of chapter 8). The question arises through what mechanisms integration between rules and social practices could be achieved.

Organizational structures for the integration of rules and social practices

Institutional frameworks were set up which ensured that links were created between rules and social practices. In the U.K. waste regulation authority there was an established procedure that waste control officers who supervised sites commented on proposals for site licences. This procedure was supposed to ensure that rules in site licences could be fulfilled by the regulated by not being too far removed from what they were doing in practice. Furthermore the way the waste control officer's field work was organized could promote the integration of rules and social practices. In the U.K. waste regulation authority the waste control officer primarily responsible for the site would visit up to three times per week so - called "problem sites". Through this intensive contact between the waste control officer and staff from the site who were managing operations on

the yard the waste control officer would in effect become involved in the management of the site and in day - to - day advice on decisions on how best to run the site. This assimilation of perspectives through the structure of the waste control officer's job promoted the integration of rules and social practices. This could occur by adapting rules to social practices or by enhancing the normative appeal of formal legal rules by pointing out how they would benefit the promotion of aims of the regulated. When discussing the relationship between rules and social practices the question arises how commercial considerations of the regulated and legal requirements were integrated.

Conflict between commercial considerations and legal requirements?

Some accounts in the literature perceive a conflict between legal and commercial requirements (see for example Clinard/Yeager; 1980:273; Sonnenfeld/Lawrence; 1978). My field data, however, suggest another view of this relationship. I reported more data on the adaptation of formal legal rules to commercial aims than any other aims (see for example chapter 8). But this did not necessarily imply that commercial contexts were more important than other contexts in influencing how formal legal rules became interpreted at the plants. One of the reasons for reporting more data on commercial contexts was that the integration of rules and commercial aims

occurred in a more overt and visible way. The integration of rules and commercial aims often occurred through specific decisions being taken by waste control officers. In contrast to this the integration of rules and other social practices occurred in a more covert and invisible way. Technology had a structural impact. Once in place it determined a range of behaviour often without having to be actively invoked or to be translated into specific decisions. There is a further reason why, in my view, the notion of conflict does not explain fully my field observations. In some situations a balance was struck between legal and commercial requirements.

Balancing legal and commercial requirements

Some of the field situations which I observed could best be described as attempts by the regulated to strike a balance between legal and commercial requirements. Most of the day - to - day activities at the regulated plants were beneath the attention threshold of the regulatory authority. The regulated might have carried out no testing procedures without the regulatory authority necessarily noticing. Saving time and money in this way would have been in the immediate commercial interests of the regulated. Nevertheless testing procedures were still operated at the plants. One of the reasons for this was that while testing procedures were costly to operate they were necessary to make the plant technology work and to carry out other commercial tasks such as the calculation

of disposal prizes for customers (for more detail see section 4.2.1. in chapter 4). Furthermore at a U.K. waste transfer plant it was in the interests of the regulated to pass on waste quickly to final disposers which promoted fulfilling legal limits on the length of time waste could be stored at the site.

To automatically perceive a conflict between legal and commercial requirements also assumes that organizations behave in a rational manner in the sense that they make every effort to realize their commercial aims. While this might apply in some cases it did not apply to some of the companies I came across during field visits with waste control officers. Some of them appeared to have fundamental management problems. For example, at one plant the site manager was replaced by a new manager to deal - among other reasons - with a lack of control over flows of incoming and outgoing wastes. Hence, not every situation involved necessarily a conflict between legal and commercial requirements. It was crucial to investigate on the ground how the fulfillment of legal requirements might be promoted by other aspects of the plant operations. Commercial aims could not be considered in isolation from other normative contexts which influenced the way the regulated behaved.

Furthermore in some situations formal legal rules were not clear enough to allow for conflict between legal rules and commercial requirements. A good example of this was that according to the site licence of the U.K. plant oil - contaminated wastes which could not be treated

should not be taken into the plant. It was in the commercial interests of the U.K. plant to avoid load rejections as far as possible so as not to jeopardize relations with customers. This affected the interpretation of what constituted an oil - contaminated waste load. Different interpretations of the rule could produce different degrees of conflict between the rule and commercial requirements. A very limited interpretation of what constituted an oil - contaminated load would produce little conflict between the rule and commercial requirements because not many waste loads would have to be rejected. Hence, different interpretations of legal rules could prevent conflict because commercial aims could be accommodated within them.

Finally, there was a more fundamental reason for the idea that the notion of conflict could not explain all field situations. The notion of conflict is premised upon the idea that we could indentify a self - contained and abstractly defined notion of legal requirements which then could be contrasted with commercial aims. Since in some situations legal requirements and social practices became integrated - even on a formal level as in the case of hybrid rules - such a notion of law, which is the prerequisite for the notion of conflict, did not exist in some situations. The question arises, however, if the integration of various normative requirements, and in particular the integration of legal and commercial

requirements, is not best described through a notion of "capture"?

Integration of different requirements as "capture"?

In my view the notion of integration is different from a notion of "capture" and only a qualified notion of "capture" applies to some of my field observations. "Capture" implies that the regulated can influence the regulators so that the regulators take their interests on board (Bernstein, 1955:73; Nader, 1965:225, 232). This can occur through the "revolving door" syndrome where the regulators are recruited from the regulated industry and regulators also might work at a later stage for the regulated (Bernstein, 1955:82; for a criticism of this perspective see Freitag, 1983).

But in some situations in the field the integration of rules and commercial aims of the regulated enhanced the normative appeal of formal legal rules. Waste control officers would point out how fulfillment of legal requirements would promote the commercial aims of the regulated. Indeed, some of the agreements reached in the field enabled the regulatory authority to have more control over the regulated than they would have had, had they resorted to formal means. For example, the U.K. regulatory authority negotiated an agreement with one of the U.K. waste management plants not to take in certain waste loads, although the site licence allowed the plant to take them. This agreement constituted an integration

between the commercial interests of the U.K. plant and the interests of the regulatory authority. The interests of the U.K. plant were not to have these wastes permanently excluded from the list of wastes they could take in. The interests of the regulatory authority were not to allow these wastes into the plant as long as the plant did not have the appropriate technology to handle these wastes safely. The negotiated agreement provided more certainty of outcome than if the RA would have used the formal site licence variation procedure. If the RA had used this, it would have formally removed certain wastes from the list of wastes allowed into the plant. In this situation it might have been more likely that the regulated would have objected. Similarly, the German regulatory authority avoided in some situations the use of formal administrative orders ("Verwaltungsakte"). In the case of the use of formal procedures the regulated would have had formal rights of appeal such as the possibility of lodging formal objections ("Widerspruchsverfahren" according to § 70 VwGO) which could be lengthy and expensive.

In addition also Ayres and Braithwaite (1992) suggest that informal ways of behaviour which are linked to a co-operative enforcement style can be seen as a means of more effective enforcement of regulations. They distinguish between different forms of capture. Two forms of capture, inefficient and zero-sum capture do not really promote the enforcement of regulations, but "efficient capture" can help the implementation of

regulation (Ayres/Braithwaite, 1992:69). "Efficient capture" describes a state where the regulatory agency benefits from the savings of flexible enforcement "by overlooking minor or technical violations in return for the firm's extra-legal efforts to reduce harm in ways not directly addressed in the regulation" (Ayres/Braithwaite, 1992:69).

The notion of "capture" also did not adequately describe the field data in so far as shared perspectives were built into the way the enforcement officer's job was organized. Hence, that aspect of the concept of "capture" which implies that activities of the regulated produce "capture" did not apply in some of the situations in relation to the enforcement of waste management regulation. For example, the waste control officer's job involved close and regular contact with the regulated. If a site was considered as a "problem" also depended on those relationships between waste control officers and the regulated. Ironically "capture" might be caused more by the way regulatory authorities organize enforcement rather than by actions of the regulated. A similiar situation has been described by Manning (1980) in his study of the law enforcement work of narcotics officers:

"Insofar as the organization and its members adapt to the character of the criminal world they are regulating, they share the symbolic, linguistic, cultural, and social world of those they regulate" (Manning, 1980:41).

He argues that the organizational structures of law enforcement work closely mirrored the organizational structures of the world of drug dealers and users

(Manning, 1980:41). Instead of a notion of "capture" he used the concepts of "mirror" and "symbolic and structural compatibility" in order to describe interorganizational relationships between regulators and the regulated. Thus, just as the police officers in Manning's study became "crooks" in order to "bust" drug deals, the waste control officers in the settings in which I looked at waste management regulation adopted sometimes the perspective of the regulated as a method to promote the implementation of legal requirements.

Some definitions of "capture" have focussed on the life - cycle of regulatory agencies. Bernstein (1955:74) distinguishes four life cycles of regulatory commissions. According to him over the periods of "gestation", "youth", "maturity" and "old age" regulatory agencies were captured (Bernstein, 1955:74). While regulatory agencies may be vigorous in enforcement in their youth - they often become captured in old age. My field data only provided a "snapshot" of the activities of the regulatory authorities. I collected information about each of the agencies over periods of three months per agency. Data that would span a longer time period would be necessary in order to determine if Bernstein's life cycle analysis of "capture" applies to the regulatory authorities in my research.

Limits to integration

Rules and social practices were not always integrated. There were limits to the extent to which rules and social practices could be integrated. Forms of cheating at the waste management plants, such as hiding waste from the view of the waste control officer at a waste transfer station indicated the limits of integration. But lack of integration did not always imply actual conflict, for example where a waste control officer did not identify the practice during an enforcement visit.

There were limits to how far standards were adapted by the regulators. According to a German waste control officer, he wrote a plan for scrap yards which adapted standards to some extent to what the regulated could comply with. While the plan for the scrap yards in the area of the German waste regulation authority allowed for some flexibility on some standards there were limits to this. For example, according to the plan there had to be some protection against pollution of ground water from oil. It was not necessary to concrete the whole scrap yard but areas where oil would be handled had to be protected against ground water pollution. The plan, however, allowed for flexibility on what type of protection was required. Concrete, which was the most expensive material, was not the only option available. There were other situations where there were limits to integration. At the U.K. waste treatment plant there was

sometimes conflict between the perceptions of the chemists and the sales staff about what waste loads should be taken into the plant. Sometimes the chemists would not accept the view of the sales staff.

Conclusion

The four types of rules discussed in this section challenge some of the images used in the literature to talk about the relationship between rules and social practices. A clear distinction between "the law in the books" and "the law in action" might not be possible. This is so for a number of reasons. First, "the law in the books" and "the law in action" could become integrated. A clear conceptual distinction between rules on the one hand and social practices on the other hand was in some situations not possible. Instead social practices, adjustment rules, customary rules, hybrid rules and formal legal rules could be placed on a continuum where they were not categories with fixed boundaries but there was interchange between them. Hence, categories such as rules and social practices, "the law in the books" and "the law in action" are too closed. They are too closed in two directions. On the one side the normativity of social practices is neglected. On the other side elements of social practices within rules are neglected. This, in turn, has implications for a concept of compliance. There is not compliance with law but

compliance with a mediated notion of law as illustrated in the different types of rules.

Secondly, a simple notion of formal legal rules and of behaviour in relation to it is too narrow because a range of normative contexts can shape behaviour. Thirdly, the notion of integration can further help to understand a concept of compliance. One of the shortcomings in the existing literature on non - compliance seems to be that it uses compliance both as a term for evaluating behaviour of the regulated and as an analytical term, explaining the concept of compliance. Thus compliance as a normative concept, referring to what the regulated are supposed to achieve, is confused with an analytical concept of compliance, which explains what the regulated actually do in compliance situations. Black (1972:1087) has criticized this confusion of analytical and policy issues on a more fundamental level in his discussion of the contents of a sociology of law. I used the notion of integration not as an abstract category but as a category describing when and how behaviour of the regulated was evaluated as compliance in practice.

Social practices and aspects of social reality

The notion of "social practices" could be differentiated into those aspects of social practices which acquired normative qualities and become customary rules and other aspects of social practices which simply described actual behaviour that occurred without

crystallizing into customary rules. One example of social practices which did not acquire normative force was the behaviour of the chemists in testing waste loads. Different chemists at the U.K. waste treatment plant interpreted differently the testing requirements for incoming waste loads. Some chemists tested more parameters than others. If it was just before shift change one of the chemists might have accepted a waste load into the plant without detailed testing. This type of behaviour was influenced by a range of factors and was specific to particular individuals. The behaviour was the result of a number of ad - hoc decisions and did not follow any general rules.

Furthermore one could differentiate between those social practices which were specifically directed at implementing law and those which indirectly had an impact on the implementation of legal rules. For example, the practice at the U.K. waste treatment plant of keeping section 17 notes in the general office rather than in the laboratory was an aspect of the way the administration of the plant was organized rather than behaviour consciously directed at dealing with legal requirements. Nevertheless, this practice had an impact on the implementation of legal rules. The chemists at the U.K. waste treatment plant stated that not keeping the section 17 notes in the chemical laboratory made their decisions about the acceptance or rejection of waste loads according to the site licence parameters more difficult. The chemists were not routinely aware of the information

provided about waste on the section 17 notes. In contrast to this the testing of waste loads in the laboratory of the German and the U.K. waste management plants was an activity directed at fulfilling legal requirements from the site licence. The question arises if there are any frameworks which shape social practices?

Work groups and social practices

Social practices often arose out of work group activity. At the U.K. waste treatment plant the main work groups whose social practices I observed were the chemists and the sales staff. Given the larger size and increased complexity of operations at the German waste management plant the social practices of a range of work groups in a range of settings became relevant. Work groups included the staff in the office dealing with the "ENs", the staff in the chemical laboratory, the people working on the yard and the staff from the waste treatment plant. There were differing social practices in the office, yard, laboratory and the waste treatment plant.

The fact that work groups influenced social practices illustrated that we could not talk of a relationship between rules and one set of social practices but that there was a relationship between formal legal rules and a variety of different social practices. Hence, regulatory relationships were constructed between the regulators and a range of work

groups rather than a monolithic bloc of "the regulated". But in addition to normative contexts, rules and social practices which shaped behaviour in relation to law there may be other factors which can have an impact on compliance behaviour.

Social practices as different from aspects of social reality

Social practices described behaviour in relation to law. It is important, however, to distinguish from this the notion of aspects of social reality. The reason for this is that it was possible that actual behaviour was not just restrained by social norms but could be influenced by aspects of social reality. For example, the problem of redeclaring waste loads could not be sufficiently captured through a contrast between the formal rules, on what should have come into the plant, and practice, what actually came into the plant. Aspects of the nature of waste allowed site licence restrictions on what could be brought into the plant to be managed. Although formal compliance with site licence standards could be demonstrated, loads could be brought into the plant that might not have been intended by the regulatory authority to be allowed into the plant. Thus, in order to explain behaviour in relation to rules it was not sufficient to refer just to social practices, aspects of social reality could also determine behaviour.

Furthermore social practices could be shaped by aspects of social reality not just by social norms.

In contrast to this some accounts in the literature do not distinguish clearly between social norms and aspects of social reality. For example, Adler and Asquith looked at social workers' discretion in decision - making. They invoke concepts such as "social forces", "operational ideologies" and "broad social - structural concerns" as influencing the behaviour of social workers (Adler/Asquith; 1981:2, 10). Young (1981:33; 37) talks generally about "subjective" factors shaping the definition of the situation" and "deep structures about 'how things are'". Smith (1981:62) refers to the notion of "the actors' ideas under specific situational constraints".

The significance of this idea is that factors other than just norms, such as social norms and formal legal rules, are considered as shaping behaviour in relation to law. Aspects of social reality, such as the nature of waste, could also shape behaviour. Not only the surrounding contexts acquired normative force but the nature of the subject matter to be regulated had an impact on behaviour. This is not adequately captured through the concepts of "law in the books" and "law in action". Both these concepts put emphasis on norms in describing behaviour. This neglects non - normative aspects of social reality which were crucial in describing behaviour in relation to law. While social norms might have constrained the impact of legal rules,

aspects of social reality in turn, might have constrained social norms. For example, one could have had at the plants a social norm that said that waste loads should be taken into the plant even if they did not conform to formal site licence parameters. If there was relatively effective supervision from the regulatory authority, compliance with this social norm would have been dependent on aspects of social reality. This social norm could have been complied with if the waste load would have permitted the taking of different samples, one of which could have demonstrated fulfillment of site licence parameters. Hence, aspects of social reality could have determined what social norms could operate.

In contrast to this the notion of aspects of social reality does not appear in Baumgartner's (1992) account of the "myth of discretion". She emphasizes the notion of social norms by arguing that - in the context of the application of criminal law - discretion is a myth because legal decision - making is strongly constrained by social norms. These social norms which in the end amount to discrimination are rooted in the "characteristics of alleged offenders and to a lesser extent those of victim complainants as well as those of supporters who come to their assistance and the social background of legal personnel generally" (Baumgartner, 1992:130, 152). Among those characteristics are relational distance, respectability and social status.

Similarly Cotterrell (1992:32,33) in summarizing a range of empirical studies on the "law in action"

emphasizes normative aspects of social reality by contrasting state law with the "living law" (emphasis added). This is further supported by the idea that he perceives the possibility of a conflict between these two norm systems.

In short: in the particular setting in which I looked at the nature of compliance it emerged from the field data that in order to explain behaviour in relation to law two aspects are important. First, there are a range of normative contexts which have an impact on what becomes understood as the law in practice. Secondly, in my view this focus on normative aspects of behaviour has to be complemented by the idea that aspects of social reality such as the nature of waste had an impact on behaviour.

12.4. Conclusion

In this chapter I explored key issues in a concept of compliance. These concerned rules, social practices and the relationship between the two. The first point that emerged was that compliance did not occur in relation to a notion of formal legal rules. The concept of rules had to be understood much more broadly. Formal legal rules could be normative but so could a range of contexts such as information, technology and commercial aims. In some situations there was overlap between these various different contexts. The second point was that compliance could not be adequately understood as a notion

of "fulfilling legal requirements". At the heart of a notion of empirical compliance is a process of integration of rules and social practices. Rules and social practices are not two conceptually different categories.

Due to the process of integration in some situations the notions of conflict and "capture" had to be modified. Further research - possibly of a quantitative nature - needs to be carried out to specify exactly under what circumstances an integration of rules and social practices occurs and under what conditions notions of conflict and capture do not apply.

This chapter has argued that it is important for understanding the concept of compliance to explore how law becomes transformed through social practices. This takes ideas which have been put forward in the literature on rules and discretion a little bit further. But I think the notion of integration is significant because, though it only involves a small change in ways of thinking about social practices and rules, it is a *qualitative* change. It is a qualitative change because it introduces a different concept of law than some of the literature uses. More detail on the implications of a transformed notion of law for debates in the literature is discussed in section 13.4. and 13.5. of the next chapter.

CHAPTER 13: SUBJECTIVE AND CULTURAL DIMENSIONS OF A CONCEPT OF COMPLIANCE

13.1. Introduction

This chapter deals in the first part with the uncertainties surrounding people's comprehension of a concept of compliance. While chapter twelve mapped out basic elements in a concept of compliance, this chapter will explore its subjective and cultural dimensions via further analysis of field data concerning the role of information in constructing concepts of compliance. Is there only one single concept of compliance or can we just perceive different images of compliance in various situations? How subjective are perceptions of compliance? What are the social processes through which some accounts become considered as information about a regulated site? The chapter will also explore whether, despite these possible uncertainties in a conception of compliance, there are basic aspects of compliance which were present both in the U.K. and German settings. What are those aspects? What relevance, if any, do differences in formal legal frameworks in the U.K. and Germany have on compliance behaviour on the ground? To what extent can the concepts of the common and civil law systems help us to understand compliance on the ground? Can common and civil law systems be linked to characteristic forms of administrative law and behaviour?

In the second part of the chapter, I will link findings from the field data as analyzed in chapter twelve to debates in the literature. The issue of how we can understand legal decision-making has also been addressed in debates on discretion and indeterminacy. To what extent can we derive characterisations of rules from formal legal materials? What is the role of social practices for understanding a concept of law? How do contributors to critical legal studies debates know if a rule is indeterminate or determinate? To what extent does the notion of discretion undermine a notion of a rule? Can we perceive discretion as conceptually different from rules? How Does the fact that the regulated and not only the regulators have choice in rule-governed systems affect our understanding of the concept of discretion?

13.2. Images of compliance

Introduction

A central idea in this chapter is uncertainties surrounding the concept of compliance. Chapter twelve referred to information as one normative context at the waste management plants. In this chapter, I will further explore the idea that information is socially constructed. Are different actors' perceptions of compliance a source of uncertainty in the meaning of compliance? What role does information play in the construction of different images of compliance? What can

we understand by the concept of information? Is there any objective, reliable information about a regulated site? Do subjective perceptions and interests influence what becomes considered as information about a regulated site? How is the information, upon which compliance assessments are based, "produced"?

How much and what type of information do the regulators obtain about sites?

Regulators rarely have the full picture when evaluating compliance. In the first place a considerable amount of information about a regulated site would not be known to waste control officers because it would be below the threshold of attention of the regulatory authority. A large amount of day-to-day activities were beyond the direct knowledge of the regulatory authority.

Some of the provisions in the site licences tried to deal with this situation by requiring the regulated to keep books that would record certain information, for example, incoming waste loads and results from testing procedures. At the U.K. plant, however, these paper records were rarely completed. At the German plant there was evidence that there was scope for not recording information which was unfavourable to the plant, or recording it differently. Thus, most of the time waste control officers were dependent on direct information about the site from the regulated. These difficulties of obtaining information had particularly an influence in

the setting in which I looked at compliance because here waste control officers did not seem to have an opportunity to cultivate informants as this has been documented in other contexts. For example, Hawkins (1984:98) in his study on the enforcement of water pollution control standards, found that officers dealt with the problem of being dependent on the regulated for information by cultivating informants among the regulated in order to get information about pollution incidents. Difficulties of regulators in obtaining information have also been noted in other contexts. Manning (1988:3) refers to the importance of citizens' information, cooperation and goodwill for police work (see also Skolnick, 1967, chapter 6).

Secondly, even if they visited sites, there were problems for waste control officers to obtain information. The regulated would know more about how their technology worked in practice than the waste control officers could discover. A lot of waste control officers had technical backgrounds in engineering, biology or chemistry. So, they would often be familiar with aspects of the technology used by the regulated such as types of kilns in incineration plants. But there were aspects of a plant which were very specific to a particular site and the kind of waste it was processing, which could not be known from general knowledge about the technology. Among these was the daily operating status of the plant covering issues such as the breakdown of parts at the plant. These aspects of the technical process made

it difficult for waste control officers to gain information about a site. This in turn could further reinforce the tendency that waste control officers would only get to know a segment of information about a process. As Sabatier (1978:407) has argued, actors focus on those aspects of an issue that they can understand. The extent to which the regulated had control over information about activities at the site is also illustrated through the fact that at one U.K. waste storage site waste was hidden from the waste control officer's view (see section 7.4 of chapter 7). A further reason why some information about the plants was difficult to access for waste control officers was that plant operations were based on cultural knowledge. Cultural knowledge consisted not so much of abstract information which was written down in operating manuals but was part of work routines and customary ways of behaviour. Such knowledge was "non - systematic, situational or tacit rather than theoretically derived and causal" (Manning, 1988:9).

Control over information was used by the regulated as a resource for bargaining with the regulators and hence for managing social control. Waste control officers stated that if they were too confrontational in their approach this could result in the drying up of information which was crucial to carry out any supervisory function at a site. Restraints on the availability of information for waste control officers did not just arise from the control of the regulated over

information but could also arise from the way the waste control officers' job was organized.

The job of the waste control officer and information

The structure of the waste control officers' job had an impact on the production of information about the regulated plants. In the German waste regulation authority, the tasks of enforcement and licensing were linked. As a result the waste control officers had much less time than their U.K. counterparts to go out into the field and visit sites. They therefore had to rely more on written reports about sites and could draw less on observations from field visits. Written reports provided more scope for the regulated to manage appearances than site visits and thus could have an impact on what became evaluated as compliance. Given these shortcomings in the quantity and quality of its information base for evaluating compliance, the question arises whether, and to what extent, did the regulators simply have to rely on indicators of compliance?

Indicators of compliance

A further consequence of the need to manage workloads was that the regulators had to rely on indicators of compliance instead of collecting complete information about a site. Such indicators were a perception of the overall state of the site rather than

detailed information about the behaviour there in relation to the site licence conditions. A further indicator of compliance could be adherence to paper procedures such as the EN paper procedure for the German "TA Abfall" regulations or the section 17 procedure in the U.K.

What would count as indicators of compliance was influenced by emotional issues such as the trust of waste control officers in what staff at the plants would tell them (see also Sabatier, 1978:407). The issue of trust, which was crucial in regard to how waste control officers would evaluate information, illustrates the complexity of the process of the production of information about a site. Trust arose out of interpersonal interaction between waste control officers and staff at the plants. "Liking" can influence how the personal aspects of what is otherwise a professional relationship are handled (Morley/Stephenson, 1977:285). Hence, affective and cognitive components of the relationship between waste control officers and staff at the sites could not be completely separated.

The personal dimension of the professional relationship between waste control officers and staff at sites was promoted through the fact that U.K. waste control officers would visit "problem sites" up to three times per week. During these visits the waste control officer would always have contact with the same person who dealt with operations on the yard such as a chemist. Personal factors could influence professional evaluations

such as in cases where somebody was judged a "good operator". The operator's display of willingness to improve was as significant as improvements that were actually carried out (see also Hawkins, 1984:127; Swingle, 1970:229). While there might have been compliance with one of these compliance indicators, there might not have been compliance with a broader range of legal requirements not captured by the indicators. Furthermore, ways of processing information in the regulatory authority could influence what became understood as information about a site.

Ways of processing information in the regulatory authority and evaluations of compliance

The way information was processed in the regulatory authorities also influenced what became considered as compliance. In fact, classification schemes and categories used by organizations to process information can become reified and thereby become treated as descriptions of the organization's environment (Blau, 1955 referred to in March/Simon, 1958:162). Some of the U.K. waste control officers used standard forms in order to provide a report about a site visit rather than compose their own report freely. These standard forms listed basic requirements rather than detailed site licence conditions that particular types of waste management plants should fulfill. Standard forms existed for landfill sites, treatment plants and transfer

stations. These forms could help to standardize information about sites and to speed up the collection and recording of information about them. But they also transformed information about sites into a particular format and set the parameters for information about a site. This transformation of information about sites through standard forms could influence if conditions at a site were perceived as compliance or not, and hence if waste control officers would take further enforcement action.

This corresponds to accounts in the literature on organizations which have argued that how organizations internally process aspects of their environment influences how they respond to that environment (Weick, 1979; Manning, 1980:49). Central to Weick's ideas is the notion of the "enacted environment" to which organizations react in contrast to an external environment, that exists "out there", objectively and detached from the information processing patterns of the organization. Hence, organizational action and environment exist in a symbiotic relationship. Applying this to the context of my research introduces a measure of circularity to a concept of compliance. The regulatory authority's perception of behaviour of the regulated is influenced by the way this body processes information. Hence, the concept of compliance does not just describe the behaviour of the regulated but also that of the regulatory authority. This has implications for policy. While discussions focus on the skills of officers and

resources needed for law enforcement in order to improve compliance among the regulated, more attention might need to be given to the internal patterns of organizations, such as systems for processing information, that cause the organization to perceive its environment in particular ways (Manning, 1980:74, 262). There will, however, always be some inbuilt limitations in the information processing system in an organization, because intelligence failure is built into complex organizations (Wilensky, 1967:179).

Indicators and ways of processing information were one aspect of the social construction of information. They were based on the need to strategically narrow the complexity of social reality (see also Tversky/Kahnemann/Slovic; 1982:3). How much and what kind of information the regulatory authority had about activities at the plants would influence whether or not the regulated would be perceived as fulfilling legal requirements. To consider information as socially constructed means that information is not an objective and unproblematic description of social reality. This raises the question what can we understand by the concept of information?

What is information?

We can only talk of images of compliance because what is perceived as information about compliance is socially constructed. Thus, the concept of information

itself can not be understood to provide an objective description of events at the plants. This point is supported through findings by Manning (1988). He emphasizes that social relations, coding procedures and interpretative practices shape messages (Manning, 1988:4). The informational content and form of the message is less important in this process (Manning, 1988:ix).

What became considered as information in my setting was not pre-determined but what counted in specific situations as information was influenced by various social processes. A good example of this was the influence of environmental consultants in Germany. They wrote reports about the plants which portrayed events at these in a light which was favourable to the regulated (for more detail see section 11.4. in chapter 11). Hence, apparently independent information could be partisan rather than neutral. Information produced was influenced by the interests of actors (Feldman/March, 1981:177).

The question arises why these consultants' reports were commissioned if these reports - as waste control officers themselves had said - contained a certain amount of image management and hence were limited in their usefulness as a source of information. Feldman and March (1981:177, 178) point to the symbolic aspects of information. They note that often organizations collect much more information than is used in decision-making processes. They state that information gathering and processing in organizations is a symbol of competence

and social efficacy. Thus, it is not so much the information itself that is important, but requesting information and assembling it are ways of making social life meaningful and acceptable (Feldman/March, 1981:177, 178).

Evaluations of compliance which depend on information were also affected by those processes of social construction that underlie the notion of what information is. Given the fact that interests influenced what became understood as information the issue was not whether there is compliance or non-compliance as such, but which of different competing versions of compliance and non-compliance became accepted. Issues of power in the relationship between the regulated and the regulators came into play. Small-scale issues such as how information could be managed in specific situations and how personal relationships were managed had an impact on how the resource of power became allocated between the various parties.

Some of the literature has dealt with the issue of "What is information?" by distinguishing "technical information" and "political information" (Sabatier, 1978:397). "Technical information" is understood as hard and fast data about technical processes, such as the amount of emissions released into the environment from industrial facilities (Sabatier, 1978:396). "Political information", in contrast, refers to normative considerations concerning the costs and benefits associated with different courses of action. From my

field data it appeared questionable whether such a distinction could be sustained. Even hard and fast data about technical processes seemed to require professional judgment and evaluation rather than being data that "speak for themselves". In the laboratory of the German waste management plant there was sophisticated analysis equipment, such as IPC machines and gas chromatographs, to analyze waste loads. According to the laboratory staff, the data produced from these machines had to be interpreted and evaluated. Decisions based on professional knowledge and experience had to be made on what data could be considered as valid and what data were aberrations that should be discounted in assembling information about a waste load (for more detail see section 11.6. of chapter 11). So far I have focused in the discussion on how information influences evaluations of compliance. But it is important to perceive also the role of information at the earlier stage of setting standards.

Information and the relationship between rules and social practices

Information could be relevant not only for evaluations of compliance, but could also affect what would be set as a standard in the first place. As we saw, waste control officers worked with a general notion of "good operators" or "good housekeepers" when assessing sites. They did not investigate the detailed fulfillment

of site licence provisions. Hence, the standard that waste control officers would set in the field for the evaluations of sites was to some extent different from the formal standards set down in the site licence.

The quantity and quality of information the waste regulation authority received about the plant from the operator could have an impact on standards set in the site licence. A German waste control officer stated that an operator had accidentally divulged so much detail about the waste incineration technology of the plant that the waste regulation authority realized that the plant was able to comply with limits on emissions which were lower than the formal legal standard. The waste regulation authority proceeded to set this stricter emission limit as the standard in the licence for the plant. Thus, information was not only relevant for evaluating if a site fulfilled standards but it could also become relevant at an earlier stage when deciding standards for a site. Consequently, the relationship between rules and social practices can not be determined in abstract, but is subjective, and depends on the manipulation of information.

Conclusion

In this section, I explored the role of information in the process of identifying the behaviour at plants as compliance or non-compliance. What counted as information was the outcome of a process of social

construction in which various factors such as the management of work loads and emotional factors played a role. Information could not be considered as neutral or objective but was subject to partisan interests. Information influenced what became considered as compliance in three ways. First, the segment of information that the regulated came to know determined what was evaluated as compliance. Second, control over information by the regulated could be used in an attempt to influence enforcement responses. Third, information would be relevant not only for evaluating what becomes considered as compliance ex-post but would also influence what became considered as a standard. Finally, the socially constructed nature of information questions the very notion that behaviour follows "rules". If we accept that information is socially constructed then this undermines functionalist and normative perceptions of social action. As Manning (1988:5) has put it:

"What is unspoken, assumed, accepted, or seen to be accepted mobilizes action but may not be fully captured by such concepts as rule - following behavior or rule - guided action. Knowledgeability (Giddens 1984) can only be partially captured by the sociologists' concept of rule - based action".

In the next section I want to explore to what extent subjective elements in the understanding of a concept of compliance are relevant in a comparative context. Are there elements in a concept of compliance that transcend different cultural and legal contexts?

13.3. A comparative perspective on compliance

Introduction

The main topic of the thesis is an examination of the concept of compliance by looking at the relationships between rules and social practices. Hence, the purpose of the comparison is to find out if the relationship between rules and social practices is constructed differently in the U.K. and Germany. The focus of this comparison is not to compare in detail legal provisions in the U.K. and Germany (for an overview of legal frameworks in the U.K. and Germany see chapter 1), nor to compare in detail what was different or similar at the plants and the waste regulation authorities in the U.K. and Germany. The comparison is not an end in itself but is one aspect of the methodology employed to shed light on the research question. Furthermore, my field data are not representative of the U.K. and Germany. They are derived from one U.K. plant and one German plant as well as one U.K. and one German waste regulation authority. During the time I spent with the waste regulation authorities, I visited a considerable number of different types of waste management sites, and therefore was able to obtain an idea of the extent to which the observations from the plants in Germany and the U.K. were typical or untypical of events at other plants, and consider this in the interpretation I placed on the data.

In this section I will deal with the following questions: what impact do differences in the formal legal frameworks in the U.K. and Germany have on behaviour in relation to law? How is law in practice constituted through social practices from the "bottom - up"? Were the techniques for manipulating legal standards in the U.K. and German settings similar or different? Were ways of managing legal requirements among the regulated similar or not? Were enforcement activities of the German and the U.K. regulatory authority similar or different? What impact did this have on what became constructed as compliance in the U.K. and German settings? What was the relevance of different forms of work organization at the plants for behaviour in relation to the law? How useful are characterizations of legal systems such as those of common law and civil law systems for understanding compliance? To what extent are characterisations in the literature concerning administrative law and behaviour in common and civil law systems supported through my field data?

Differences and similarities at the plants compared

This research was conducted in two countries, and it involved the differences in the legal regulation of waste management (see chapter 1). Therefore the situations being compared were not identical. There were also some differences in the way work at the plants was organized and there were some minor differences in the

plant technology. But these differences did not impede the comparison. The central issue for the comparison was the relationship between legal frameworks and social practices. This relationship can be studied even if there were some technological differences in the plants and in the way work was organized. The reason for this is that the aim of the comparison was not to contrast different work groups with each other but to compare the relationship, and the factors influencing this relationship, between technology, legal contexts and work groups.

Different legal regimes for waste management regulation in the U.K. and Germany led to different ways of how work was organized at the U.K. and German waste management plants. The German waste management plant had to conform to a procedure - the "EN" paper procedure - which did not exist in the U.K. There was a separate work group which dealt with the "TA Abfall" at the German plant which did not exist at the U.K. plant. Also, the fact that different waste management plants would offer different types of services could lead to differences in the way work was organized. The German plant, in contrast to the U.K. plant, did not just offer the service of treating liquid wastes but also provided waste storage and arranged final disposal sites. Hence, the chemists were organized into a separate work group in the laboratory which serviced both waste storage on the yard and the treatment plant. This was different from the U.K. plant where the laboratory was connected to the treatment

section, the only service offered at the U.K. treatment plant. Thus, differences in legal and technological frameworks at the waste treatment plants could lead to minor differences in the way work was organized. But these differences did not obstruct a comparison between the relationships between legal frameworks, technological frameworks and work groups in the different settings.

The impact of technology on behaviour in relation to law

In fact, basic aspects of these relationships were the same in the U.K. and German settings. In the following section I will first describe which basic aspects of technology were the same at the U.K. and German plants, and then I will briefly refer to those minor aspects of technology which were different.

Both at the U.K. and German plants, technology could structurally determine behaviour in relation to the law (for more detail see chapter 5). Basic aspects of the treatment technology at the German and U.K. plants were similiar because they operated the same technical treatment process. Also, aspects of "bucket chemistry", which was related to shortened testing procedures, existed both in the U.K. and German treatment plants. Furthermore, at a small-scale level, there would be similiar defects at the German and U.K. plants which were contrary to the site licence. For example, at both the German and the U.K. plants, the indicators for the tank levels did not work.

Despite these basic similarities there were some differences in technological frameworks. In some situations, these led to differences in behaviour on the ground, in others, they did not. For example, given the lower level of technology at the U.K. plant, where second-hand parts from an old sewerage works were used, "bucket chemistry" was more pronounced than in the German plant, where the treatment technology used was newer than at the U.K. plant. Furthermore at the German plant, operations were carried out on a smaller scale, which allowed for more process control. The better state of the treatment technology contributed to the situation that at the German plant there were none of the "normal accidents" (Perrow, 1984) as happened at the U.K. plant (for more detail see chapter 5). Accidents would constitute breaches of the site licences. Thus differences in technology could have an impact on how formal legal requirements were met.

By contrast, in other situations, differences in the technological frameworks would not lead to differences in behaviour in relation to the law. In the old laboratory of the U.K. waste treatment plant, analysis facilities were more rudimentary than in the laboratory of the German waste treatment plant. But better equipment at the German plant did not necessarily mean more accurate testing results. Practical and commercial considerations, such as ensuring fast turn around time for tankers could lead to the shortening of testing procedures at the German plant. Also, in the

laboratory of the German waste management plant, the staff would not always test for substances which they did not expect to find in the waste.

The impact of the organization of work on behaviour in relation to law

The way commercial requirements affected the organisation of work groups was different at the U.K. and German waste management plants. There was not a separate sales force at the German waste management plant as there was at the U.K. waste treatment plant. At the German waste management plant, the manager was involved in the marketing of the waste services. One of the reasons for a separate sales group at the U.K. plant might have been that it operated in a more obviously competitive environment. In the immediate vicinity there were other plants which offered the same waste treatment services. Also, in the particular "Land", where I conducted the field work, special wastes (as defined in § 2 (2) AbfG 1986) were excluded from the open market in waste disposal services. They had to be placed under the control of a state-owned company which then arranged for its disposal. Some of these wastes were disposed of in the German waste management plant where I conducted field work. Hence, the plant did not have to obtain these wastes in competition with other plants on the open market. The economic recession, which caused a reduction in the amount of industrial wastes, however, had an

impact both on the U.K. and the German plants. Both were working below capacity.

Although these differences in the commercial frameworks had an impact on the organization of work, this did not mean that commercial aims were more responsible for shaping behaviour in relation to the law at the U.K. waste management plant than in Germany. While I did not collect quantitative data on the actual number, load rejection at both plants was considered only as a last resort. There was the same emphasis in the U.K. and Germany on ensuring a short turn-around time for tankers. Furthermore at both treatment plants, because of commercial reasons quick testing methods such as Merck dip kit tests were favoured in some situations over the more elaborate and accurate testing methods (for more detail see chapter 4).

The basic conflict between commercial considerations and legal requirements was the same at the U.K. and German plant. What was different were the staff groups negotiating with each other this conflict. At the U.K. waste treatment plant, it was mainly a conflict between the chemists in the laboratory and the sales staff. At the German waste management plant, it was mainly a conflict between the laboratory and the treatment plant because at the German plant these two areas were more distinct than at the U.K. plant. Thus, at the German plant, there was not pressure to take in loads from the sales staff but from the people operating the treatment plant. Also, at the German waste management

plant, pressures to take in waste loads were more internalized into decision-making processes than at the U.K. plant. The way the computer system worked in the assignment of waste codes made it easier to take in a broader range of waste loads and to consign them to cheap disposal sites. At the U.K. waste treatment plant commercial pressures were more external in the sense that the sales staff would try to influence decisions about taking in waste loads in conversations with the chemists.

When considering the relationship between the organisation of work and behaviour in relation to the law, a complex picture emerges. In some situations organisational structures had an impact on behaviour in relation to the law, in others they did not. Where organizational structures had an impact they would mediate the relationship between rules and social practices. The fact that there was a separate sales force at the U.K. plant did not seem to have much of an impact on behaviour in relation to the law compared to the situation at the German plant. The separate control function of the laboratory at the German plant, however, seemed to have more of an impact on behaviour than the separate organization of commercial aims in the sales force at the U.K. plant. Since I did not collect quantitative data I cannot separate what, quantitatively, the difference in impact was of the diverse factors on behaviour in relation to the law. At the German waste management plant, the staff from the treatment plant were keen to take in waste loads, whereas the laboratory

understood its task to be the control of what waste loads came into the plant; and they often took a more restrictive view on the question of whether the site licence allowed a load to go into the plant or not. Being separate from the treatment plant, unlike in the U.K., the German laboratory had more independence to control behaviour in relation to loads coming into the plants. Though not impossible, it was certainly more difficult for the waste treatment plant to take in loads which were not in conformity with site licence standards.

In contrast to this, the technical operations of the plant and its commercial aims were more closely linked at the U.K. plant. The laboratory, which also decided about load rejections, was closely linked to the treatment plant. The separate sales force at the U.K. plant simply exercised the commercial awareness which other staff groups including the U.K. chemists had in any case.

Work was basically organized in the same way at the plants. Differences existed more often in detailed provisions. For example, both at the U.K. and the German waste management plants, certain procedures and work routines existed for dealing with waste. At the U.K. plant, however, these procedures were more detailed and formalized. This was partly a result of the fact that the U.K. waste treatment plant wanted to obtain registration for the BSI quality management standard. This standard required that formalized procedures have to be operated, which were also documented in an operations manual. At

the German plant staff did not refer to written procedures.

Hence, at the U.K. plant, there were more formalized procedures that translated site licence provisions into work routines. This did not mean, however, that at the U.K. plant there was less scope for the regulated to manage the fulfillment of site licence requirements than at the German plant. Instead, there were similar areas for managing site licence requirements. These included taking in waste loads not clearly covered by the site licence, managing definitions of waste loads, or carrying out shortened testing procedures (for more detail see chapter 4). Greater prescription of behaviour at the U.K. plant or a more explicit translation of site licence requirements into practice, does not therefore necessarily lead to behaviour which is more in conformity with site licence requirements. This corresponds to observations in the literature which have pointed to discrepancies between "public pro forma descriptions of activities and a privately sanctioned set of working rules" (Manning, 1980:72).

What I observed at the U.K. plant in relation to informal standards confirmed what had been argued in relation to German formal legal standards in the German literature. More formal legal standards do not necessarily lead to more compliance but instead can lead to more informal behaviour which can result in the evasion of those standards (Bohne, 1983:203).

The impact of enforcement activities on behaviour in relation to law

There were, however, differences in the enforcement activities of the German and the U.K. waste regulation authorities. Some of these differences were linked to different organizational frameworks. As noted earlier, German waste control officers spent less of their time in the field than their U.K. counter-parts, due to the merging of the supervision and licensing of sites. In the case of waste disposal plants which were licensed under § 6 BimSCHG, such as waste incinerators, the operator had a legal right to get a licence once the legal requirements for obtaining it were fulfilled (Kloepfer, 1989:720). Accordingly, waste control officers made licensing their first priority. In addition, officers stated that it would be more beneficial to their careers to interact with colleagues and section leaders in the office rather than being out on a site. Office work carried higher prestige than enforcement work in the field. The differences that I observed between the U.K. and the German regulatory authorities might not of course be representative. A U.K. parliamentary report has pointed out that also in several U.K. regulatory authorities, site visits occur only too infrequently ("Toxic Waste", 1988, para. 119). In the setting that I observed, however, German waste control officers obtained less direct information about waste disposal sites than their U.K. counterparts. This reduced the likelihood that

the German regulatory authority would detect breaches of the formal law.

As described in chapter twelve, however, the behaviour of the regulated was influenced by a range of different normative contexts and not just enforcement activities. Just because the German regulatory authority did not visit sites more regularly does not mean that the formal law was more frequently disregarded. As described in chapter four to twelve, basic aspects of three normative contexts and how they influenced behaviour in relation to the law were the same in the U.K. and Germany. Without collecting quantitative data or undertaking an enforcement study of the impact of enforcement activity on the behaviour of the regulated, it is not possible to say anything in detail about how important enforcement activities were manifesting themselves in relation to the other normative contexts that influenced behaviour in relation to law at the plants.

So far I have described basic aspects of the organisation of work at the plants, of technology and of enforcement activities. The next section will focus in more detail on whether formal legal frameworks were relevant for understanding compliance behaviour on the ground.

The impact of formal legal frameworks on behaviour in relation to the law

Basic aspects of the job of the waste control officer in Germany and the U.K. were similar. There were similar basic legal provisions which gave them power to carry out their supervision tasks. There were provisions that enabled regulatory authorities to licence sites (§ 7 AbfG ; section 5 COPA 1974) and to make changes to a licence after it had been issued (§ 9 a AbfG nachträgliche Anordnungen, section 7 COPA 1974). Furthermore there were provisions that required the regulated to provide information to the regulatory authority (§ 11 AbfG Auskunftspflicht; section 6 COPA 1974). In addition, both the German and the U.K. regulatory authority had powers to prosecute waste management operators (§ 326 StGB, § 18 AbfG 1986; section 3 (2) COPA 1974).

If we look, however, at more detailed provisions, particularly in relation to secondary legislation, differences emerge. For example, in Germany there was the "EN" procedure which did not exist in the U.K. Formally it gave more power to the regulators. It allowed them to control decisions about what type of special waste went into what type of plant (§ 8 AbfRestÜberwV i.V.m. TA Abfall Nr. 1 f). But as described in chapter seven there was a range of techniques to subvert those legal provisions. Some of these techniques were based on the fact that the nature of waste did not allow for clear-cut

results from analysis procedures. Thus, despite apparent differences in the formal legal frameworks there were considerable similarities in the practical implementation of waste management regulations on the ground. These included similar techniques for the management of legal standards in the U.K. and German settings.

Similar techniques for the management of legal standards in the U.K. and German setting

At both the U.K. and the German treatment plants, staff would refer to their experience of waste loads when justifying why they did not follow formal procedures for the testing of waste loads. At both, alternative standards developed. The site licences of both the German and the U.K. plant required that only those waste loads should be taken into the plants which conformed to the initial description of that waste. The standard that operated in practice at both plants, however, was simply the question of whether the waste was treatable at the plant. Hence, waste loads which did not conform to the initial waste description, but which could be treated, would still be taken into the plant.

At both the German and the U.K. plants, waste loads were sometimes "recycled". This meant that waste loads which had not been sufficiently treated to meet the limits on the discharge consent would be treated again until they would conform to them. "Recycling" waste loads

was a form of managing legal requirements, because according to the site licence only wastes which were capable of being treated were to be accepted at the plant. The reasons why this same technique for the management of site licence requirements was possible at both the German and the U.K. site was that basic aspects of the technology of the plants were similiar. Thus, similiarities in one of the four normative contexts, here technology, could reduce the significance of differences in other contexts such as legal frameworks.

Both in the U.K. and Germany, definitions of special waste, such as the Special Waste Regulations in the U.K. (SI 1980 No. 1709) and the waste definition regulations in Germany ("Abfallbestimmungsverordnung" 1990; BGBL III 2129 - 15.4.) could be handled flexibly. In Germany this led to the result that the allocation under the "TA Abfall" of what waste went into which plant could be undermined. In the U.K., the issue was whether or not waste would be covered by the special waste definition and hence if it had to comply with the prior notification obligations. Not only were techniques for managing legal requirements among the regulated the same in both countries, but there were also similiar techniques for managing legal requirements among the U.K. and German regulatory authorities. For example, both sent out draft licences for operators to comment on.

A similiar approach was adopted in both countries to prosecutions, despite the differences in the kind of offences that German and English law provided for in case

of the breach of waste management regulation. In Germany, there was a distinction between regulatory offences ("Ordnungswidrigkeiten") and full criminal offences. Regulatory offences were defined in the administrative law statute which regulated waste (§ 18 AbfG) and full criminal offences were spelled out in the general penal code §§ 324, 326, 327; 330 StGB). One could assume that the availability of a lesser offence in Germany might have made it more likely to invoke this offence as a deterrent. However, regardless of these differences in the formal legal provisions on offences, prosecutions in the U.K. and German settings were both only used as a last resort. In both Germany and the U.K, negotiation between the regulatory authority and the regulated was the prime instrument for dealing with alleged infractions of formal waste management regulation.

In both the German and the U.K. licensing procedures, a working plan was used in order to help to draw up a site licence. This was formally recognized in the guidance issued by the DoE on licensing in the U.K. (see WMP 4, 1990:11,12). The German provisions simply referred to the fact that the operator had to provide information about the site during the licensing stage (see the requirement of a "Betriebshandbuch" of operations according to para. 5.4.2. TA Abfall 1991). While legal guidance in the U.K. explicitly refers to the fact that these working plans should be used to draw up licences, this link is not spelled out in German law, but according to waste control officers in Germany, the

statement of operations was in practice used to draw up the site licence.

In both the German and the U.K. settings, consultants mediated the relationship between the regulatory authority and the regulated plants. In the German setting, there was more frequent use of consultants than in the U.K. In the U.K., consultants were predominantly used during the site licensing stage, whereas in Germany, consultants' reports also played a role in the supervision of sites. For example, consultants' reports would describe the implementation of new legal provisions (for more detail see section 11.4. in chapter 11). Particularly when reports would show compliance with legal regulations, they would provide an important tool for the regulated to put their version of events across to the regulatory authority. Hence, the more frequent use of consultants' reports by some German operators allowed for the opportunity to avoid more effectively being controlled by the regulatory authority. This was less possible in the U.K. Enlisting the "expert knowledge" of consultants could have greater legitimacy with the regulatory authority than other techniques for avoiding control such as hiding waste from the view of waste control officers. The question arises of how formal legal standards were mediated in the regulatory authorities.

Mediation of formal legal frameworks by the regulators

Formal legal frameworks on their own have limited relevance for explaining behaviour in relation to law because they are mediated through the way how different administrative units are organized and how work within those units is organized. As we have seen, the German waste regulation authority where I was a participant observer, had chosen to entrust waste control officers both with the tasks of the enforcement of rules and the licensing of sites. This was not the case in the U.K. regulatory authority nor in other German waste regulation authorities. One of the consequences of joining the two was that the enforcement officers had little time to go out into the field to supervise sites. But there were additional factors relating to the administrative structures. The administrative framework for waste management regulation differed in various "Länder" in Germany. Some "Länder" had three tiers of administrative bodies, others had two (Erichsen/Martens, 1992:728; Siedentopf, 1986:76). The city states, such as Hamburg and Berlin, had a one-tier administrative organization. In the three tier administrative organization, there is the superior administration of the "Land" ("obere Landesbehörde") as the highest level, the president of the government ("Regierungspräsident") as the second level and on the lowest level, as part of the special administration, the trade supervision offices ("Gewerbeaufsichtsämter"), the county councils ("Kreise")

and the towns (Kloepfer, 1992:69). The federal waste disposal law (AbfG) left the implementation of the law to the "Länder". The "Länder" determined how they wanted to organize the administration of waste management regulation (Kloepfer, 1989:738). In some "Länder" the implementation of the AbfG occurred through one administrative body; in other "Länder", it was dispersed over a range of different administrative bodies (Kloepfer, 1992:738).

In the area where the German waste management plant was located, the waste regulation authority was also assisted by a specialized branch of the administration which dealt with water pollution control ("Wasserwirtschaftsamt"). In the U.K. waste regulation authority, by contrast, the NRA, a central pollution control body, would only be contacted during formal licensing procedures and not in relation to routine enforcement matters. During my field work I also did not come across cooperation with the water companies in enforcement matters.

Thus, formal legal structures contained in statutes and secondary legislation could be linked only to a limited extent to behaviour in relation to the law, because they were mediated through administrative frameworks. Other examples show that formal legal frameworks could have a contradictory impact on behaviour in relation to the law. The formal administrative order ("Verwaltungsakt") in German law created its own incentive for bypassing it. Avoiding formal legal

provisions could help to avoid legal and organizational accountability (Bohne, 1983; for more detail see section 9.6. in chapter 9). More generally it has been argued that an increase in the scope and density of the net of legal rules governing activities of the administration increases the capacity of self - regulation of administrative authorities and actually decreases control over the activities of administrative bodies (Ellwein, 1986:22; Böhret, 1986:36).

Both the German and the U.K. waste regulation authority had adopted a co-operative enforcement style despite different formal legal principles (see chapters 8 and 9). In Germany, the co-operation principle, a formal legal principle, required regulatory authorities to attempt to achieve solutions in co-operation rather than confrontation with the regulated (Kloepfer, 1989:92). Such a principle does not exist in English environmental law, but the regulatory authorities nevertheless adopted a co-operative enforcement style. Nevertheless, waste control officers both in Germany and the U.K. stated that the use of negotiation between the regulatory authority and the regulated made the invocation of formal prosecutions more difficult. The fact that in Germany there was also a formal legal reason for this did not seem to make a difference. Under German environmental criminal law (§ 326 StGB) a waste control officer could be prosecuted for an environmental criminal offence if he had authorized or tolerated illegal practices (Kloepfer, 1989:248). There are different views on what the exact

requirements are that have to be fulfilled for a waste control officer to be criminally liable (Rüther, 1991:195). In the U.K. there was no formal legal reason, such as the possible criminal liability of a waste control officer. Nevertheless, waste control officers stated that acquiescence to the illegal practices of operators would make prosecutions more difficult because the operator would try to claim that this acquiescence implied authorisation by the RA. In order to explore the relevance of formal legal frameworks in regard to behaviour in relation to the law, it is important to consider not only small-scale legal factors but also to inquire into the relevance of the characteristics of whole legal systems.

What is the relevance of common and civil law frameworks?

Both in Germany and the U.K., the basic legal framework of waste management regulation consists of statute law which is further developed through provisions in secondary legislation. Those areas where there are most clearly differences between the common and the civil law systems did not become very relevant to my research question. For example, case law on how elements of a legal offence, such as the term "deposit" in U.K. law, were defined, would have become relevant if the research would have looked in detail at the question such as "under what circumstances and how often prosecutions are taken against operators?" The main focus of this

research, however, was to examine how in everyday practices at waste management plants, and in interaction between waste management plants and regulatory authorities, the meaning of the law and compliance with it is created. Criminal prosecutions occurred only as a last resort both in the U.K. and German settings (see also Hoch, 1994:491 - 521; Rüther, 1991:262 - 275; Hawkins, 1984:129 - 153). While criminal offences did have some impact as a bargaining chip in the interaction between the regulatory authority and the regulated, their contribution to the creation of meaning of the law was limited. Hence, it was not relevant to examine in detail how the different status of case law in a common and civil law system influenced how the law gained meaning. This is different from the approach adopted in enforcement studies, where the threat of prosecution and formal legal rules associated with it, assume a greater significance in the explanation of bargaining behaviour between the regulated and the regulatory authority. In my research, the bargaining between the regulators and the regulatory authority was just one element in the creation of understandings what the law entails.

Furthermore, from the perspective of the actors at the plants, the formal legal framework was not their main reference point. Staff working at the plants knew little about the formal law beyond the basic site licence requirements, and even those were only known by some staff, such as the chemists at the U.K. treatment plant. Thus, those areas of the law where the differences

between the common and civil law systems are most pronounced were not very relevant for my research. However, the question arises if behaviour observed on the ground has any implications for what we can understand as characteristics of a common and civil law system.

What are the characteristics of common and civil law frameworks?

According to Galligan (1986:43), it is the quintessence of the common law method that discretion will be translated over a course of decisions made into settled rules, principles and standards. In my view, however, it is questionable to what extent Galligan's description of the movement from broad standards to principles is indeed characteristic of the common law method. Galligan's context was judicial law-making. In the regulatory context, that I studied, a move from discretion to settled standards could be observed in both the U.K., a common law system, and Germany, a civil law system. In both countries, broad legislative standards were made specific through site licences for particular plants. In the field, waste control officers would strike agreements with the regulated in order to agree standards on very specific issues that were too detailed to be regulated through the site licence (see chapter 8). Hence, while Galligan's characterisations may be useful when comparing judicial decision-making in common law and

civil law systems they may be less relevant for the comparison of regulatory contexts.

Some of the literature has linked characterisations of the common and civil law systems to particular types of administrative styles. It has been argued that in common law systems such as that in the U.K., the administration is more flexible and less legalistic than in civil law systems such as Germany. I turn to this issue next.

Characterisations of administrative systems

Characterisations of administrative styles tend to reflect characteristics of the formal administrative law in common and civil law systems. The German administrative style has been described as "formalistic" in contrast to the "pragmatic" and "flexible" style of the U.K. system (Siedentopf/Hauschild, 1990; Siedentopf/Ziller; 1988, vol. 1; Meny, 1985:180). As described in chapter eight, basic aspects of the behaviour of the regulatory authorities in both Germany and the U.K. were, in practice, the same. Both authorities used prosecution only as a last resort and adopted a conciliatory enforcement style. Negotiation and informality were important aspects of interaction between the regulated and the regulators in both countries. In both settings rules would emerge that were the result of the integration of social practices and rules. In practice, therefore, in the day-to-day behaviour of the

regulators, the German system could not be described as more rigid than the U.K. system. The same incentives worked both in the U.K. and the German systems to promote the adaptation of rules to social practices. In both systems, the adaptation of standards of what the regulated could comply with, made the job of the waste control officer easier and helped the regulatory authority to demonstrate success in its enforcement activities. Both the regulated and the regulators had a mutual interest in adapting standards. This transcended national differences.

From the German plant I gave more evidence of the creation of exceptions from legal requirements (see chapter 7 and 8). This, however, does not necessarily mean that the German regulatory authority was more accommodating to the regulated than the U.K. authority. Instead, more legal procedures that existed in Germany, such as the "EN" procedure, could simply create more opportunities for exceptions. More formality can lead to greater informality on the ground (McBarnet/Whelan; 1991; Bohne; 1983). This theme of only a "loose coupling" (Cyert/March, 1992:235) between formal legal frameworks or organizational rules and behaviour on the ground has also been echoed in studies of law enforcement. For example, Manning (1980:262) found that narcotics officers worked relatively independently from officers higher up in the organizational hierarchy.

Conclusion

The comparison was only one element in the approach adopted towards exploring compliance in the U.K. and German setting in this research. The aim was to examine the relationships between various frameworks and behaviour in relation to law. Basic aspects of these frameworks, such as the organisation of work and technology, were the same in the U.K. and German settings. They influenced behaviour in relation to law in a similiar way. Formal legal frameworks were, in practice, mediated through administrative structures, through informality of the behaviour of waste control officers or through techniques which the regulated adapted to manipulate legal standards. The ways of manipulating legal standards were basically similiar at the U.K. and German plants. This meant that the differences in the formal legal frameworks did not lead to different compliance behaviour on the ground.

What became considered and treated as compliance in particular circumstances in the U.K. and German settings could differ, not because of the different legal frameworks, but because there was a different threshold of attention for the German and the U.K. regulatory authorities. The techniques through which behaviour became regarded as compliance or not were similiar, however. Thus, more formal tools of control such as the "EN procedure" in the German system did not make law more of a restraint on the behaviour of the regulated than in

the U.K. These techniques tell us more about the nature of law and of compliance with it than about whether there was "more" or "less" compliance in the U.K. or Germany. Observations of behaviour in relation to law, however, can feed back into characterisations of formal legal systems that are adopted in the literature. In a regulatory context and on the lowest level, some of the typical characterisations of common and civil law systems break down. One of the reasons for this is that basic aspects of actors' everyday routines, such as the normative contexts at the regulated plants and basic requirements of the job of waste control officers in the regulatory authorities, were the same in both countries. Consequently, characterisations of administrative behaviour in common and civil law systems as "flexible" and "rule - bound", which have been used in comparative literature, may have little meaning in practice. In the next section I will look at the implications of my findings for debates in the literature on discretion.

13.4. Variations on discretion

Introduction

Most behaviour that I observed at the waste management plants occurred below the level of the exercise of official discretion. Discretion might have once been exercised in decisions directed at the regulated but then the regulated would implement such

decisions in day-to-day activities without further involvement of the regulatory authority. A lot of my data related to the observation of this everyday behaviour rather than incidents of the exercise of official discretion where waste control officers would make formal decisions on particular issues. In the literature, discussions of discretion have mainly focused on the discretion of staff working in public administrations rather than considering what happens when such discretionary decisions are implemented by the regulated. See for example Smith's (1981) research on discretionary decision-making of social workers; Giller's and Morris' (1981) account of social workers' decisions concerning delinquent children in the care of local authorities; Bradshaw's (1981) study of the decisions of social service officials on the allocation of money from the Family Fund; or Noble's (1981) account of decisions made by housing corporation officials. Also, in a more recent essay collection on discretion (Hawkins (ed.); 1992), the empirical research accounts focus on the discretion of public regulators such as officials in a public housing eviction board (Lempert, 1992) and the payment of industrial disablement benefit by officials of the Department of Social Security (Sainsbury; 1992).

In the following section I will address the question of how useful the term "discretion" is, in order to describe behaviour at this level where there are no specific interventions from the regulatory authority. The notion of discretion, as it is used in some of the

literature, refers to formal legal rules. It does not really encompass a broader notion of rules as I encountered in the field such as hybrid rules, adjustment rules and customary rules. How does our understanding of the concept of discretion have to change in order to take into account different notions of rules as set out in chapter twelve? Should we define discretion primarily with reference to formal legal rules? How much should agency be emphasized in discussions of discretion? What are sources of discretion? What do different sources of discretion tell us about the question whether we can make a conceptual distinction between rules and social practices? How broadly or narrowly should discretion be defined? Does the differentiation in the literature between strong and weak discretion adequately capture observations from the field?

The scope of discretion: discretion in relation to aims of formal legal rules and methods for achieving those

Discretion is defined in the literature as enabling different courses of action in order to achieve an aim that is defined by the legal rules. For example, Davis (1969:4) states that discretion exists whenever the effective limits on power leave an official free to make a choice among possible courses of action.

According to this definition, discretion exists in relation to various courses of action that can be adopted to achieve an aim which is defined in legal rules.

Discretion does not exist in relation to different aims of a formal legal rule. This narrower perception of discretion in the literature does not adequately capture observations from the field. Here "discretion" existed not just in relation to different options through which aims, as stated in formal legal rules, could be achieved, but as a choice between different aims of rules. Hence, for the regulated the range of actions unrestrained by formal legal rules was wider than just a choice between different ways of realizing legal aims. In effect, what the regulated were able to do was to determine for themselves the aims of their action.

For example, one of the reasons why the German "TA Abfall" regulations were introduced was in order to redress the situation that commercial aims were the main consideration for waste disposers when assigning waste loads to final disposal sites. Such decision-making could be in conflict with environmental considerations. The cheapest disposal site would not necessarily be the site best suited to contain the environmental effects of a particular waste. Hence, the German "TA Abfall" regulations attempted to ensure that environmental considerations were taken into account when assigning waste loads to final disposal sites (Kloepfer, 1989:712). The regulated were able, however, to assign waste codes strategically so that commercial considerations could nevertheless be the main consideration for matching waste loads with final disposal plants (see chapter 7 for more detail). This type of behaviour is not adequately

captured by a conventional notion of discretion which does not account for the situation that the regulated formally fulfill legal requirements while being able to subvert the aims of formal legal rules.

Sources of discretion: discretion can arise out of social practices not just rules

It emerged from the field data that discretion does not just arise out of formal legal rules but can also arise out of social practices. For example, the chemists at the U.K. and German waste management plants had the power to use discretion. They were able to choose between different courses of action. This discretion did not so much arise out of rules but out of professional judgments. For example, according to the site licence of the U.K. plant, oil-contaminated loads could not be taken in if they could not be treated at the plant. Different chemists had different views on when an oil-contaminated load should be taken in or not. Hence, one source of discretion seemed to be also the individual chemists' judgments on the treatment process in the plant. Their knowledge and understanding of the plant did not lead to one determinate outcome but enabled the justification of various different courses of action. At the German waste management plant too, first and second analyses were sometimes carried out on waste loads so that at the end a result was arrived at which showed conformity with load acceptance parameters. This practice was enabled through

discretion in the testing methods which determined the outcomes. Thus, how much and what type of restraint on behaviour was the result of professional attitudes and technology, not just the formal law. Discretion could arise out of social practices. Thus, discretion could work from the "bottom-up", not just from the "top-down" through the formal law.

Some contributors to debates in the literature have recognized this while others have not. Davis (1969) sees discretion located in formal legal rules and Dworkin's (1977:31) idea of discretion as the "hole in the doughnut" also perceives discretion as the space unrestrained by legal rules. Staatsen (1976) discusses the discretionary powers of officials who administer the Dutch General Assistance Act 1965, mainly in contrast to rule-bound behaviour. Merlin (1976), considers the powers of officials in the French tax administration to award tax relief contracts to businesses as discretionary in the sense that the French officials are not being bound by formal legal rules. He therefore advocates more restrictions on the power of officials through formal legal rules in order to promote equality of treatment of different enterprises and fairness (Merlin, 1976:170).

In contrast to this, Asquith and Adler (1981:10; 21) pay more attention to the social structures which inform discretionary decisions. For them, discretionary decisions are not just defined negatively as an area of decision-making unrestrained by formal legal rules. They therefore try to understand what guides those decisions.

Asquith and Adler (1981:13,14) distinguish between professional and administrative decision-making in public administrations. They refer to professionals' "esoteric knowledge" (Adler/Asquith, 1981:13) and their particular conceptions of social reality as a source of discretion (Adler/Asquith, 1981:21, 23). Manning (1992) too refers to discretion within the framework of a more general discussion about decisions made in the face of disaster. He uses the concepts of decision frames, fields and routines, for explaining decision-making in organizations. He (1992:258) does not start with a-priori notions of formal legal rules but is interested in the "experiential basis of the social organization of legal life". Some accounts in the literature see social practices not so much as a source of discretion but mainly as a restraint on legal discretion. Baumgartner (1992:156), for example, argues that social norms which transcend the particularities of national legal systems have more force in shaping discretionary decisions than formal legal rules.

What is considered as a source of discretion clearly has implications on how we define rules and social practices. Opinions about discretion that consider social practices as a restraint on discretionary decisions perceive a conceptual distinction between rules and social practices. In contrast to this, those accounts that consider both rules and social practices as sources of discretion, perceive less of a conceptual distinction between rules and social practices. Perspectives which

perceive discretion as the point where the law meets real life, work with a distinction between rules and social practices (Hawkins, 1992 : 12). But even where there is no discretion, law meets real life because the formal law has to operate with categories drawn from real life. For example, load acceptance parameters in site licences only had meaning when considered in relation to technical testing procedures. In situations which did not involve discretion as defined in the literature, law had to draw on social practices or aspects of social reality in order to gain meaning. Hence, those aspects of legal life associated with discretion might be more widespread than appears to be the case, in the narrower definitions of discretion which operate with a clear distinction between rules and social practices. What has been attributed to the particular phenomenon of discretion might in fact be a general characteristic of a different notion of law.

My field data show that in both countries discretion was not pre-given and did not exist just as a result of a particular kind of formal legal rules. Instead, discretion could be created and restricted through social practices in the field. For example, on some occasions the U.K. regulatory authority on some occasions made provisions for the day-to-day running of the plant. According to one of those negotiated agreements, acid waste loads were not to be immediately discharged into the treatment plant, but were to go into a storage tank first. Technological conditions, such as a broken pump, could prevent the actual implementation of

the exercise of this discretion. There was formal discretion here, in the sense that theoretically the regulatory authority had a choice between different ways of organizing the technical process. But in practice the state of the technology determined whether legal discretion would be realised on the ground. We can distinguish different ways of defining discretion, not just in relation to the issue where the source of discretion is located, but also in relation to the question of to what extent we should refer to formal legal rules when defining discretion.

The role of formal legal rules in defining discretion

Some definitions of discretion in the literature refer to formal legal rules. For example, Dworkin's concepts of 'strong' and 'weak discretion' perceive discretionary behaviour differently from behaviour governed by legal rules. Weak discretion involves having to exercise powers of judgment or being the final arbiter (Dworkin, 1977:31,32). Strong discretion involves not being bound by standards set by any authority and hence being able to create one's own standards (Dworkin, 1977:32).

On the basis of my research, however, it is important to take into account that in some situations rules and social practices can be integrated (see chapter 12). Hence, it is difficult to make a clear-cut distinction between behaviour governed by rules and by

discretionary action. One implication of the notion of integration is that it perceives more of the influence of a mediated version of law than the notion of discretion. This means that ironically a broader notion of discretion - which includes a notion of integration of rules and social practices - might have more social control through rules. This is in contrast to some of the literature which sees discretion as linked to the limitations of formal legal rules to steer behaviour. Discretion is seen as a formal legal rule vacuum in which social and organizational norms can gain influence (see for example Davis, 1969)

There are other problems with the notion 'strong' and 'weak discretion'. The concepts 'strong and weak integration' put more emphasis on behaviour in relation to law at the formal standard setting stage. In contrast to this 'strong' and 'weak discretion' refers more to the situation once standards have been set. The more rules and social practices are integrated at the standard setting level, the easier it can be for the regulated to fulfill the standard.

Further objections can be raised against the notions of 'strong discretion' and 'weak discretion'. The notion of 'strong discretion' neglects normative aspects of social practices. Hence, while formal legal rules might not restrain behaviour, social practices might do so (Baumgartner, 1992). Furthermore, Dworkin's definition does not provide for "unofficial discretion". This covers the situation where the regulated or the regulatory

authority have not been given choice explicitly by formal legal rules ('weak discretion') nor is there an absence of formal legal rules ('strong discretion').

Adopting a notion of integration, rather than the notion of discretion, can lead to different policy implications. Discussions on how to restrain discretion would have to take into account how behaviour in relation to law is internally restricted. Such internal restraints arise out of specific relationships between rules and social practices. For example, the computer system at the German plant influenced behaviour by constructing a specific relationship between rules and social practices. Formal legal rules have been referred to also in other definitions of discretion. For example, some of the literature perceives discretion as arising from the application of rules to facts.

Discretion as the application of rules to facts?

Some authors have considered discretion as resulting from the application of rules to facts. For example, Galligan (1986: 35) has stated:

"It is discretion that results from the inherent qualities, and in a sense imperfections, of human decision - making, as well as the elements of subjective judgement and evaluation that are irrevocably part of the search for facts and the application of standards".

But to focus on the process of the application of rules to facts does not take into account the fact that

the regulated themselves can sometimes define the rule. This happened in relation to the assignment of waste loads. Furthermore, as pointed out in chapter twelve, it is questionable whether such a distinction between rules and facts can be maintained, given that social practices can transform a notion of a rule. While administrators might have been trained to analyze official decision-making situations as involving facts and standards this might not necessarily be the case for legal actors among the regulated. For the latter, legal standards are just one among a range of normative contexts as described in chapter twelve.

Connected to the idea that discretion arises from the application of rules to facts is an emphasis on agency (see for example Galligan, 1986). Actors are seen as consciously exercising choice, or their actions are seen as being governed by rules. My field data, however, point to a structural dimension of behaviour in relation to law. Structural frameworks such as the technology of the plants could determine behaviour. A further aspect of focusing on formal legal rules for explaining discretion, is the attempt to explain discretion by reference to characteristics of rules.

Loose standards as a source of discretion

Galligan (1986:21) defines discretion in the following way:

"Discretion as a way of characterizing a type of power in respect of certain courses of action, is most at home in referring to powers delegated within a system of authority to an official or set of officials, where they have some significant scope for settling the reasons and standards according to which that power is to be exercised, and for applying them in the making of specific decisions, e.g. assuming the relative importance of conflicting standards, individualizing and interpreting loose standards".

Hence, in Galligan's view, discretion can arise from the interpretation of loose standards. Prosser (1981:158) also referred to broad legal terms such as "exceptional needs" in social security legislation, as a source of discretion. Bohne (1980 : 51) considers broad legal terms such as "latest standard of technology" ("Stand der Technik"), and "damaging environmental impacts" ("schädliche Umwelteinwirkungen") in the German Federal Immissions statute ("Bundesimmissionsschutzgesetz 1974") as a source of discretion for public officials. Furthermore, Staatsen (1976:133), in his analysis of discretionary decisionmaking under the Dutch General Assistance Act 1965, perceives that discretion arises out of the form of formal legal rules. She argues that discretion arose from the fact that the lines between "normal" and "special costs of living" were not clearly drawn (see also Schefters, Ringeling and Wolters, 1976:192). This seems to suggest that the precision or looseness of the standard is an inherent characteristic of the formal legal rule. On the basis of the analysis of the relationship between rules and social practices in chapter 12, it is questionable whether the

characteristics of formal legal rules can be indeed considered as a source of discretion. To give a concrete example: in the German "TA Abfall", there were waste descriptions such as oil contaminated earth that could be described as narrow. But these waste descriptions could be manipulated, for example, through the strategic sampling of waste loads. Hence, the form of a rule, in terms of looseness or precision, is not the only factor that determines if there is discretion or not.

Galligan (1986:71) further develops the idea that discretion is related to the characteristics of formal legal rules. According to him, formal rationality which is expressed in abstract rules reduces discretionary powers, whereas substantive rationality, which leads to goal-oriented rules, enhances discretionary powers. Therefore it is important to find the right mix between behaviour restrained by rules and discretionary behaviour. This perspective has been criticized as not being concrete enough in detailing what exactly the right mix is between rule-governed and discretionary behaviour (Baldwin, 1995:38).

In my view, two more fundamental objections to Galligan's perspective can be raised. First, some waste management regulation was of a technical nature and could be classified as coming within the "formal rationality" category. But inherent in this technical regulation was a great deal of discretion (see chapter 8). Galligan (1986:71) recognizes that in the application of rules which belong to the "formal rationality" category, there

might be room for discretion. Logical reasoning and technical expertise could not completely supplant the value judgement of administrators (Galligan, 1986:70). Galligan, however, does not dispute that it is possible to categorize legal rules according to the "formal" and "substantive rationality" categories. My second objection is that the formal law is seen as the main reference point for defining if a legal rule follows substantive or formal rationality and hence whether it leads to more or less discretion. But as discussed in chapter 12, the form of the formal law is limited in giving an indication of how much discretion actors actually have in the process of implementing law. Definitions of discretion that refer to formal legal rules are often linked to "top - down" perspectives.

Top - down perspectives

Galligan's notion of discretion is restricted to a "top - down" view where discretion is primarily linked to an analysis of the power of official administrators rather than the power of the regulated. Galligan (1986:21) states that discretion is "most at home in referring to powers delegated within a system of authority to an official or a set of officials". In order to explain behaviour in relation to law, however, it is important to perceive the power of the regulated in directing behaviour. Such power could be exercised through information management systems in the laboratory

of the German waste management plant. Another example is the ability of the regulated to manipulate paper procedures such as the "EN" in Germany or section 17 notes in the U.K. Discretion can arise not just out of power which is officially delegated to officials, but can also arise from power which is unofficially assumed by the regulated. One probably unintended consequence of viewing discretion as located within the characteristics of formal legal rules is that it becomes seen as a peripheral phenomenon. But is it?

Discretion as a peripheral phenomenon?

Hart and Dworkin consider discretion as a peripheral issue. They argue that there are always rules which can guide behaviour even if there are no specific discretionary decisions. For Hart (referred to in Galligan; 1986:60), these are rules of application which individuals can see for themselves in case after case without further recourse to official discretionary decisions. For Dworkin, these rules that can guide behaviour are general principles of law (Dworkin, 1977, 35-37). But while decisions or principles might be relevant for explaining the guidance of the behaviour of administrators, they do not necessarily constrain the behaviour of the regulated who might not even know about these patterns of decision-making among the regulators. The notion of a framework of rules which can guide behaviour in the absence of explicit decisions seems

difficult to apply to the regulated or regulators in the context of waste management because in their case a considerable amount of rules are site specific and ad-hoc. This does not seem to constitute a general framework from which requirements for behaviour could be deduced. Furthermore, Dworkin's argument about the reliance on legal frameworks in order to restrain discretion does not necessarily apply in the context of waste management regulation. It does not adequately capture the strategic manipulation of waste codes. There were no formal legal principles for applying waste codes. Instead these choices were guided by technical criteria such as analysis procedures for waste. The way waste was sampled and analyzed was the main determinant for how waste codes became allocated to particular waste loads. This, in turn, could be influenced by commercial considerations.

Conclusion

Literature on discretion has examined how we can understand uncertainty in rule-governed systems of behaviour. My research suggests there are shortcomings in some of these accounts. First, most of the studies of discretion focus on the behaviour of official legal actors such as administrators, rather than recognizing that the regulated have choices too. As a result, much of the literature does not investigate the social processes around the exercise of choice by the regulated. Second, many accounts operate with a narrow version of discretion

by locating it within legal rules rather than in social practices or aspects of social reality. This study suggests that the definitions of discretion which perceive less of a difference between rules and social practices are also important. Hence, the notions of "strong" and "weak" discretion need to be supplemented by notions of "strong" and "weak" integration of rules and social practices. Linking rules and social practices in explanations of discretion means that discretion cannot be seen, as Hart and Dworkin do, as a peripheral phenomenon which can be solved by reference to general legal principles. Instead a different perception of discretion would be central to a concept of rules. The question of how we can conceptualize rules and how important uncertainty is in rules, has also been raised in debates on indeterminacy by the Critical Legal Studies movement.

13.5. The determinacy and indeterminacy of rules and social practices

A definition of determinacy and indeterminacy

Definitions of indeterminacy in the literature have focused on judicial dispute resolution, particular in appellate courts (Solum, 1987:496), which stress the uncertainty and unpredictability of the outcome of a settlement of a legal dispute between two parties (Boyle, 1992 : xx ; Otakepor, 1988:112; Solum, 1987:462). There is

not much discussion of the meaning of legislative and quasi-legislative rules in a regulatory context. In order to be able to come to general conclusions about the indeterminacy of law, it is important to further investigate how indeterminacy of legislation and quasi-legislation operates in regulatory contexts. It is necessary to explore how indeterminacy works in a regulatory context rather than to follow the realists' assumption that the problem of indeterminacy of law can be solved by entrusting legal decision-making to expert agencies (Hutchinson/Monahan; 1984:204).

In my research, I looked at indeterminacy in a regulatory context. The field data provide a number of examples of indeterminate rules. An indeterminate rule leaves open what the specific requirements on behaviour are. Behaviour cannot be predicted in advance from the formal rule. For example, the site licence of the U.K. waste treatment plant stated that only waste loads as spelled out in Annex B could be taken into the plant. For a range of waste loads, however, in the view of the site chemists and the waste control officers, it was not clear if the loads could be classified under the types listed in Annex B. Hence, in some situations, various different courses of action could be authorized by the rule.

Determinacy means that a clear and specific course of action can be deduced from a rule. But determinacy and indeterminacy can be best thought of as two concepts on a continuum where rules are more or less determinate. According to an agreement with the U.K. regulatory

authority, no loads containing phosphates were to be taken into the plant. There was, however, still some uncertainty in this rule which arose from the question to what extent trace levels of phosphates could be accepted in the load. Hence, the question is not whether rules as such are determinate or indeterminate but to what extent they are indeterminate. What factors contribute to the indeterminacy of rules? What are sources of indeterminacy?

Determinacy of rules and social practices

In the literature, indeterminacy is usually discussed as an aspect of formal legal rules (Boyle, 1992:xx; Solum, 1987:462; Kelman, 1987:258). One consequence of this is that there is often a considerable focus on the words of the rules and on a more general level on language (see for example Frug, 1984:1312; Boyle, 1992:xx). Discussions of indeterminacy - even by those who disagree with fundamental aspects of the indeterminacy thesis (see for example Finnis, 1985:38) - focus on law as the product of official legal actors such as judges, legislators and regulators (see for example Kennedy, 1986). The analysis in chapter 12, that a notion of rules becomes transformed through the integration of social practices into rules, suggests another view of indeterminacy. Rather than discuss the indeterminacy of an abstract and self-contained category of rules in a regulatory context, we have to look at social practices

also in order to determine whether a rule is determinate or indeterminate. This is part of the very definition of determinacy. Something can only be determinate in relation to something else. There has to be a criterion for measuring determinacy. A rule in a regulatory context can only be determinate or indeterminate in relation to behaviour, i.e. to social practices. Hence, if social practices are indeterminate, the rule relating to these social practices cannot be determinate. An example of this is that acceptance parameters for waste which were based on indeterminate analysis procedures could not be determinate. These acceptance parameters could be manipulated. Their appropriate manipulation could provide the result of the "fulfillment" of those legal requirements. Hence, sources of indeterminacy can be not only rules but also social practices or aspects of social reality such as the nature of waste. In addition, some aspects of the plant technology such as testing procedures and the actual treatment process, were indeterminate.

The Critical Legal Studies literature discusses indeterminacy on a different level to this research. Detailed aspects of the relationship between rules and behaviour on the ground are not explored. Instead, on a grand scale, the relationship between the law and fundamental social institutions such as the market or particular forms of democracy are explored (Tushnet, 1984 : 646; Unger, 1983). For example, Unger (1983) rejects formalism and objectivism. He defines formalism as the

legal justification of outcomes which is distinguished from ideological disputes about the basic terms of social life (Unger; 1983:564). He uses the term objectivism to describe the belief that the legal system contains and supports a defensible scheme of human association (Unger, 1983:565). According to Critical Legal Studies accounts, irreconcilable visions of how society should be organized are the source of indeterminacy (Otakpor, 1988:115). Hence, the relationship between rules and social practices, such as social institutions, aspects of social reality and social structures, does become a topic in Critical Legal Studies debates on indeterminacy but on a different level to my detailed discussion of the relationship between rules and social practices on the ground in a regulatory context.

First, Critical Legal Studies debates on indeterminacy do not contain much detailed material on the relationship between rules and social practices on a small - scale level. The Critical Legal Studies position on the relationship between ways of organizing society and law seems slightly ambiguous. On the one hand, different visions of how society is organized are considered as contributing to indeterminacy (Otakpor, 1988:115). On the other hand, reference to various social visions in an expanded version of doctrine are considered as a way of limiting indeterminacy (Unger, 1983:579). In contrast to this, in the context in which I came across the indeterminacy of rules, social practices on a small-scale level were an important source of discretion.

Actual practices were a source of indeterminacy, not just conflicts about what social practices on a grand scale should be like.

Secondly, discussions of indeterminacy which do not take into account the indeterminacy of social practices operate with a "legal spectacles" perspective, where rules operate in a self-contained legal world which gives meaning to rules. Hence, where Critical Legal Studies accounts of indeterminacy have not investigated in detail the relationship between rules and social practices, these accounts run the risk of falling short of their own aim of rejecting a closed concept of law and a notion of an autonomous legal system which has its own "scientific" ways of reasoning and solving legal problems (Boyle; 1985:706). By focusing often on appellate court decisions, Critical Legal Studies accounts of indeterminacy do not provide much space for the role of the interpretative work of legal actors on the ground in creating or limiting indeterminacy. This even applies to accounts which are critical of some aspects of Critical Legal Studies discussions of indeterminacy. For example, Solum (1987:473) states that notions of determinacy and indeterminacy have to be complemented by a notion of underdeterminacy. It appears that the question if a rule is indeterminate, determinate or underdeterminate can be answered through an abstract analysis of legal materials, presumably involving traditional legal techniques of interpretation and reasoning. Where Critical Legal Studies authors such as Kelman have referred to the

importance of interpretative construction, they have done so, not with the intention of redefining a concept of law, but as a preliminary element of legal activity that influences rational rhetoricism displayed in formal legal doctrine (Boyle, 1992 : xvi). To conclude: my field data support one aspect of the rule scepticism suggested by Critical Legal Studies as expressed in the following quotation:

"As I understand it, the critical version of rule-skepticism (sic) - is the argument that one can always come up with a perfectly plausible interpretation of any rule, including legal rules, such that any particular behaviour can be seen as either following or not following the rule" (Solum, 1987:477).

On the basis of my field data, however, I disagree with the idea that indeterminacy is a characteristic of formal legal rules. Instead, I think that it is necessary to look at the social processes that surround the implementation of legal rules on the ground in order to be able to make statements about the indeterminacy, determinacy or underdeterminacy of rules. Determinacy and indeterminacy are empirical issues. Solum (1987:479) recognizes this social dimension of rules in his rejection of those Critical Legal Studies arguments which base a strong indeterminacy thesis on the idea that language can never be determinate. According to Solum (1987:478, 479), this is more of a hypothetical rather than a practically relevant issue. Whatever theoretical indeterminacies exist in language, in practice people

will find agreement on the usage of words which gives language determinacy.

A similiar type of criticism which is, however, more fundamental, has been raised by Boyle (1985:744). He points to a fundamental tension in the Critical Legal Studies project between essentialism and various attempts to reject it. For example, Boyle (1992:xvii) argues that Unger (1983) attempts on the one hand to reject essentialism, but on the other hand he bases his critique on his perception of the essential, deep structure of liberalism. Thus, Boyle perceives a close similiarity between the high formalism of legal analysis in the U.S. in the 1890s and the structuralist analysis of legal doctrine by critical legal studies scholars in the 1980s. Both present "a privileged but different abstraction from a large amount of information (Boyle, 1992:xvii). The identity of the critical legal studies project is inextricably linked to what it tries to reject. As Boyle (1985:729) states:

"The irrationalist approach [in CLS] (own addition) cannot simultaneously claim that our objectified picture of the social world radically curtails our freedom and that this objectification actually does not limit the indeterminacy of doctrine as it is experienced by lawyers and judges"

Conclusion

In order to understand compliance, it is necessary to ask: compliance with what? Several debates in the

literature have addressed the issue of the nature of rules with which there can be compliance or non-compliance. Critical legal studies literature supported the idea that rules are indeterminate which corresponds to observations from the field. I problematized, however, the fact that critical legal studies accounts seem to arrive at that conclusion by analyzing formal legal materials. Hence, social practices which can feed into the interpretative work done by legal actors in the field are neglected as a source of indeterminacy.

13.6. Conclusion

In this chapter I dealt with uncertainties surrounding a conception of compliance. I discussed social processes, such as the management of information, which influence how the relationship between rules and social practices is perceived. Information itself is a social construct that influences what becomes understood as compliance. Information influenced evaluations of compliance both at the level of setting standards and in evaluating behaviour in relation to standards. It was not just an exploration of the concept of information that helped to understand how relationships between rules and social practices are constructed, but also the comparative dimension shed some light on the how this relationship is constructed in two different national settings. Two main points emerge from the comparison. First, basic aspects of technological and organizational

frameworks at the German and the U.K. plants were similar and hence influenced behaviour in relation to law in a similar way. Second, formal legal frameworks are limited in explaining behaviour in relation to law. The reason for this is that formal legal frameworks were mediated at various levels through organizational structures in the regulatory authorities and through techniques for managing formal legal standards at regulated plants. Hence, while there were differences in formal legal frameworks, there was considerable similarity in behaviour in relation to law in the U.K. and German settings. Hence, basic aspects of the social construction of compliance were the same in the U.K. and German settings. The field data show that some of the characterisations of common and civil law systems and their administrative systems might not apply on the lowest level of the implementation of law in a regulatory context. The relationship between rules and social practices has also been addressed in discussions on discretion. One of the shortcomings of some accounts of discretion is that it has not been considered how discretionary decisions become implemented. Discretion is mainly linked to legal decision-making of officials in the public administration rather than to legal decision-making of the regulated. In my view, this has led to a narrow perspective on discretion which sees legal rules mainly as a source of discretion rather than social practices or aspects of social reality. Uncertainty in legal decision-making has been a major issue in Critical

Legal Studies debates on indeterminacy in law. It seems that there is a problem with how Critical Legal Studies defines indeterminacy. If one does not take into account the interpretative work done by legal actors in the field, how would one know from studying formal legal materials if a rule was indeterminate or not, without invoking legal "scientific" methods of reasoning whose validity is disputed by Critical Legal Studies authors? The focus on legal doctrine in Critical Legal Studies is too narrow in order to come to general conclusions about the indeterminacy of law.

APPENDIX I

GLOSSARY OF WASTE MANAGEMENT AND CHEMICAL TERMS

Acidifying waste	adding acid to a waste mixture and thereby reducing its ph-value to an acid milieu
"After treatment" tests	tests carried out on waste samples after treatment steps have been applied on a small scale to waste samples
Aromates	aromatic compounds, compounds related to benzene, ring compounds containing conjugated double bonds (Chambers, 1988) e.g. p-Nitrotoluene
Atomic absorption unit	chemical analysis apparatus, atomic absorption spectrophotometry is a method for determining the concentration of an element in a sample by measuring the absorption of radiation in atomic vapour produced from the sample at a wavelength that is specific and characteristic of the element under consideration (Elwell, Gidley, 1966:1)
Atomic spectroscopy	the branch of physics concerned with the production, measurement and interpretation of spectra arising either from emission or adsorption of electromagnetic radiation by atoms (Chandler, 1988)
Bio tests	tests where biological agents such as fish are used to determine e.g. the toxicity of an effluent
Bulker	machine which bulks up

	solid wastes
Bunded tankfarm	a tankfarm around which a small wall has been built so that spillages from the tanks can be contained
Chlorinated solvents	chlorine based solvents
Chromatography	a separation technique that relies on the ability of surfaces to adsorb substances with different strengths. This is used in analytical chemistry to determine the composition of substances (Chambers, 1988)
Cyanide	salt of hydrocyanic acid
Compactor	machine used at a landfill site which compresses solid waste
Complexones	substances of particular ability to combine with metals, e.g. EDTA. They are used in special soaps to remove metallic contamination. Complexones in liquid waste loads posed the problem that metals which were already bound to these substances could not be felled out as metal hydroxides
Dioxin	chemical substance which is typically a result of burning polychlorinated compounds such as PVCs and PCBs
Drum washings	washwater and solid residues which arise from washing out drums used for carrying waste
Felling out metals as metal hydroxides	chemical reaction process used in liquid waste treatment. Metals are taken out of

	suspension in the liquid phase and being precipitated into the solid phase ("felled out") by being transferred into a metalhydroxide
Filter cake	the end product of the liquid waste treatment process. Solid material that is produced by pressing treatment sludge through the filter presses. In this process the solid matter ("filter cake") and the liquid (effluent) are separated
Filter press	the machine through which the treated waste sludge is processed. The sludge is pumped through cloth and thus filtered
First loads	waste loads arriving at a waste treatment facility without a prior sample of the waste stream having been submitted to the plant. Normally the plant receives a sample of a waste stream in order to carry out tests on it. Only then is a decision made if the waste stream should be taken into the plant
Flue gas	gaseous emissions from a combustion process, such as waste incineration
Gas chromatograph	chemical analysis apparatus A version of chromatography in which a gas carries the sample over a stationary liquid phase
Grids	part of the treatment plant where liquid waste loads are discharged, usually a pit which is covered by grids
Halogenated hydrocarbons	hydrocarbons is a general term for organic compounds

	which contain only carbon and hydrogen. Halogenated hydrocarbons contain halogen atoms
Heavy metals	metals of moderate to high atomic number, e.g. copper, zinc, nickel and lead
HCL	hydrochloric acid. An aqueous solution of hydrogen chloride gas. It dissolves many metals, used e.g. for metal pickling
ICP analysis machine	a chemical analysis apparatus. It involves a type of atomic spectroscopy in which the light emitted by atoms and ions in an inductively coupled plasma is observed
Interceptor wastes	wastes collected in interceptors
Keeping metals in suspension	keeping metals in the liquid phase
Lime	substance used for the neutralisation of the waste mix after it has been acidified
Lines	the pipes in which wastes are pumped at the waste treatment plant
Merck dip kit tests	quick testing method from Merck. It consists of test strips that are dipped into the sample. The test result can be read off the strip by its discolouring
Neutralisation	bringing the ph-value of a waste mixture to about ph 7
Nitrates	salts or esters of nitric acid. Nitrates are used in explosives and fertilizers
NOx reactions, "noxing"	chemical reaction between

	nitrates and acids
Oil pre-treatment process	the first treatment step for an oily emulsion. For example through adding a treatment chemical the oil is separated out from the rest of the liquid waste mixture
Oil trap	an oil trap helps to mechanically separate out the oil from the rest of the waste load.
"One-offs"	expression for an exceptional case being made for taking in a waste load into a waste management facility
Phenols	a group of aromatic compounds
Ph-meter	an apparatus for measuring the ph-value
Ph-value	on the scale of 0-14 indicates the alkalinity or acidity of a waste mixture
Re-treating waste loads	if the treatment process does not produce an effluent the first time round which conforms to the limits of the discharge consent then waste loads might be put again through the treatment process
Road sweeper	machine used to clean the roads. Frequently used at landfill sites in order to avoid that roads leading to the site become muddy.
Sorption material	material used to soak up spillages of liquid wastes at treatment plants (e.g. saw dust)
Sulphuric acid	a strong dibasic acid: H_2SO_4 . The concentrated

	acid is a colourless, oily liquid and is very corrosive. It is used e.g. in pickling liquors
Transport depot	office of a waste haulage company where waste vehicles are coordinated
Turn-around time	time that a tanker would spend on the yard of a waste management plant
Waste load	an individual load of a particular waste stream
Waste stream	description for the type of waste that arises from a particular production process. e.g. the waste stream "grinding sludge", consisting of cooling liquids and metal particles arising from the use of grinding wheels
Waste transfer station	at waste transfer stations waste is stored, collected and put together to larger quantities of waste which are then transported to a final waste disposal site.

APPENDIX II

ABBREVIATIONS USED IN THE THESIS

AbfG	Abfallgesetz
AbfRestÜberwV	Abfall-und Reststoffüberwachungs- verordnung, German regulations on the supervision of waste and waste like substances
Abs.	Absatz, paragraph
ber.	berichtigt..., corrected at...
BGBL	Bundesgesetzblatt, German Federal Statute Collection
BimschV.	Bundesimmissionsschutzverordnung, German legal regulations on air emissions
BSI	British Standards Institute
CO	Carbonmonoxide
COPA	Control of Pollution Act 1974
DIN	Deutsche Industrienorm, the equivalent to the British Standards Institute standards
EN	Entsorgungsnachweis, disposal certificate
EPA	Environmental Protection Act 1990
ff.	fortfolgende, following
GMBL	Gemeinsames Ministerialblatt, German collection for legal regulations
DoE	Department of the Environment
HMSO	Her Majesty's Stationery Office
ICP-AES	Inductively coupled plasma-atomic emission spectroscopy
LAGA	Länderarbeitsgemeinschaft Abfall, Länder workgroup "waste"
OJ	Official Journal of the European Union
para.	paragraph
RA	Regulatory Authority

Rz.	Randziffer, number for a section of a paragraph used for referencing
S.	Seite, page
SO ₂	Sulphur dioxide
SPD	Sozialdemokratische Partei Deutschlands
StGB	Strafgesetzbuch, German Penal Code
TA Abfall	Technische Anleitung Abfall, German technical regulations on waste
TA Luft	Technische Anleitung Luft, German technical regulations on air emissions
v.	von, German word for a minor aristocratic title
Vorbem.	Vorbemerkung, Foreword
VwVfG	Verwaltungsverfahrensgesetz, German administrative procedures statute
WDA	Waste Disposal Authority
WHG	Wasserhaushaltsgesetz, German Federal Water Statute
WIA	Water Industry Act
WMP	Waste Management Paper
' '	Quotation marks used for verbal statements made by various actors which I recorded in field notes
" "	Quotation marks used for written statements of which I obtained copies

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